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932-547 A1

INTERNATIONAL STATISTICAL INSTITUTE

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Report of the Second Ad Hoc Technical Advisory Meeting
on the World Fertility Survey
The Hague, July 18-21, 1972

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**Report of the Second Ad Hoc Technical Advisory Meeting
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I. INTRODUCTION

1. At the invitation of the International Statistical Institute (ISI), the Second Ad Hoc Technical Advisory Meeting on the World Fertility Survey (WFS) was held in The Hague from July 18 through July 21, in order to provide the ISI, the International Union for the Scientific Study of Population (IUSSP), and various sponsoring agencies with technical guidance on the methods of conducting the contemplated survey. Attending the meeting were 13 participants, 4 consultants and observers, 5 representatives of sponsoring agencies, and 3 members of the ISI Bureau (see Appendix A). Participants, consultants, and observers were invited to attend in their individual capacities as experts in survey design and management in the various regions of the world.
2. The ISI commissioned one background paper for this meeting and circulated an additional six background documents to those attending. These documents are listed in Appendix B.
3. At the beginning of the meeting, Mr. Verstege, the Secretary-General of the ISI Bureau, welcomed participants on behalf of the President of the ISI. He thanked all those present for attending at such short notice and stated that the First Ad Hoc Meeting had made an excellent start. He hoped this meeting would turn to technical issues involved in the implementation of the recommendations of the earlier meeting. Following this, it was announced that the ISI had appointed a steering committee for the meeting consisting of Mr. Macura as Chairman, Mr. de Graft-Johnson and Mr. Linder as Vice Chairmen, and Mr. Seltzer as Rapporteur. A drafting committee consisting of Messrs. Chander, Fellegi, Harding, Somoza and Tekse was formed to assist the Rapporteur.
4. The Meeting was informed that the WFS was to be undertaken by the ISI in collaboration with the IUSSP and the United Nations. It was presently envisaged that the WFS would be a five-year programme, consisting of a development phase (1972-1974) and an implementation phase (1974-1977). However, it was recognised that some analytical work might have to continue beyond this date. The meeting was further informed that financial support for the project would be sought from the UN Fund for Population Activities (UNFPA), and that financing for initial planning work had been obtained. The Meeting was also told that a WFS Central Staff of specialists in demography, statistics, and other relative fields would be established and that they would be located in London, with Mr. Kendall as Project Director. The administrative centre, however, would still be located at the Permanent Office of the ISI in The Hague.

5. At the request of the Chairman, Mr. de Graft-Johnson presented a summary of the discussions of the First Ad Hoc Technical Advisory Meeting. The Chairman informed the Meeting that the First Ad Hoc Meeting had definitely agreed to recommend that the ISI should undertake the WFS, and that the object of the present meeting was to make definite recommendations on the agenda items and to submit a report of these recommendations soon after the end of the meeting.

6. There was some discussion concerning the content and sequence of the agenda and the mode of discussion of the agenda items. The agenda as finally adopted is given in Appendix C. (However, it was agreed that for the purpose of the final report some different method of organisation might be desirable.) The Chairman announced that there would be three main subcommittees, dealing with Survey Operations; Sampling, Quality Control, and Evaluation; and Data Processing; chaired by Messrs. Heyer and Lahiri and Miss Casis, respectively. The membership of these subcommittees is given in Appendix D.

II. FRAME OF REFERENCE

7. Recommendations of the First Ad Hoc Technical Advisory Meeting with regard to the desirability of the WFS, its nature and scope, and the ways and means of conducting it were taken as a point of departure for proceedings of the present meeting. It was understood, however, that consideration of the basic issues of the WFS might be involved in discussions of the present Meeting in order to give adequate attention to some technical and administrative aspects which might also have policy implications.

8. The participants in the meeting were aware that, because of the time factor, sufficient attention could not be given to all of the agenda topics. They felt, however, that in view of the variety of their backgrounds and experience in different parts of the world it would be possible for them to highlight (a) those topics which were important for the functioning of the WFS at national levels; (b) those problems that must be solved in order to achieve high quality of performance; and (c) the kinds of activities which the WFS Central Staff should undertake at different stages of operation.

9. The Meeting agreed that the implementation of the WFS would require enrichment of methodological knowledge, adequate organisation both at the centre and in the individual participating countries, trained personnel, and significant resources. It would involve in an international effort the components of national governments and research bodies, as well as the Central Staff of the WFS and several international organisations. In order to be successful, the WFS would have to develop adequate technical skills and expertise, and would have to provide various kinds of facilities, services, and assistance, as well as financial resources, to the participating countries.

10. The participants in the meeting were aware that the requirements for services and assistance would differ widely, depending on economic conditions and the technical capability for fertility research and survey-taking in individual countries. A number of countries would be able to undertake a survey on their own; for these countries, the main value in joining the WFS would relate to methodological developments and the international comparability of data. Another set of countries would have the over-all technical capability but would lack technical or other resources for some of the significant survey inputs; in addition to the factors of methodological development and comparability, these countries might be interested in obtaining assistance from the WFS for specific survey inputs. Still a third set of countries would lack both the technical capability and the resources; they might wish to join the WFS in order to obtain both.
11. The Meeting was of the opinion that conditions prevailing in developing countries deserved the particular attention of the ISI and the WFS Central Staff. It emphasised the interest of these countries in taking part in the WFS programme. The availability of high quality information on fertility and fertility regulation was an immediate objective of the WFS which most countries could benefit from. However, this alone might not lead to further fertility surveys and to further development of demographic knowledge. For this reason, an additional objective of the WFS should be the development of national capability for and institutionalisation of fertility research. It was recognised that this objective would be difficult to achieve because of technical, institutional, administrative, and financial deficiencies in many countries. The Meeting considered it appropriate for the WFS to assist in overcoming these deficiencies and stressed the need for adequate technical and financial assistance to be provided to those countries which need it. At the same time, the Meeting pointed out that each country should make its own contribution to the WFS by providing those inputs for a national survey which are locally available.
12. It was considered difficult, even impossible, to make an estimate of the number of participating countries at this early stage, and without detailed information on national capabilities and interest. Moreover, the participants did not agree to support any formal criteria for the selection of countries. It was expected that the number of participating countries would gradually grow, and that the WFS programme would expand in accordance with the increasing recognition of the need for a better understanding of human reproduction, and the improvements in technical capability to study human reproduction.

The Meeting emphasised the need for the WFS Central Staff to establish contacts with national authorities and technical personnel as soon as possible. Several lines of communication were suggested which could be established between the ISI and the WFS Central Staff, on the one hand, and national governments, statistical agencies, and research institutes, on the other hand. It was mentioned that decision making in a country with regard to the participation in an international programme was a complex process possibly involving several national agencies. This was understood to be a time-consuming process which must be taken into consideration in the planning.

III. ORGANISATION OF THE WFS AT THE NATIONAL LEVEL

13. In the time available to them, the participants at the meeting were unable to consider in detail all aspects of the organisation of the WFS at the national level. In addition, the participants recognised that questions relating to the organisation of the WFS at the national level could not be considered in isolation from the technical and other inputs to be provided through the WFS Central Staff. Nevertheless, they did single out four major areas for discussion. These were: (a) local executing agencies; (b) the national project director; (c) the national coordinating committee; and (d) the survey calendar.

A. Local Executing Agency

14. The selection of appropriate organisations or institutions to conduct the WFS in the participating countries was considered at length. The advantages and disadvantages of a variety of types of governmental and nongovernmental organisations were considered, including national statistical organisations, university or other research organisations, health ministries, permanent or ad hoc autonomous bodies, and commercial survey organisations. The possibility of jointly involving a number of these agencies in a given country was also discussed.

15. The Meeting considered these various options and expressed the view that no fixed rules should be developed. The location of the WFS in the different participating countries had to be resolved on a case-by-case approach, bearing in mind the objective of obtaining good quality data. The Meeting concluded that the WFS Central Staff would need to discuss this issue with participating countries. A strong view was expressed that the selection of the local organisation or organisations be based on consultation with and advice of interested professional groups and individuals having firsthand knowledge of the relevant capabilities and experience of the national organisations in this area. It was also suggested that the WFS Central Staff consult with CICRED to identify national centres for demographic research which might usefully participate in the conduct or analysis of the WFS at the national level.

B. National Director

16. The Meeting agreed that if at all possible a national of the participating country should be appointed as National Director. In countries which did not have a suitable person, recourse could be made to appointing someone from outside the country.

17. The Meeting took the view that ideally the National Director should combine the skills of an experienced administrator of statistical programmes with those of a subject-matter specialist in fertility research, although recognising that a combination of these qualities in one individual was rare. It was agreed, however, that both types of skills would have to be represented among the senior staff.

18. On the issue of full-time or part-time National Director, it was decided that this would depend on the circumstances in each country and the organisation selected, though it was recognised that a full-time Director was generally preferable. If a part-time Director were selected, the Meeting stressed the need for a full-time Deputy Director.

C. National Coordinating Committee

19. The Meeting recognised that it might be useful for a country to set up a National Coordinating Committee to advise the National Director. Such a committee, it was felt, should include professionals interested in the research aspect of the study, as well as representatives of ministries of the government and other agencies concerned with policy matters regarding fertility. It was suggested that the terms of reference of such a committee should be broadly defined in order to enable the committee to advise and participate in decisions regarding the planning and execution of the national survey. Such a committee would have a particularly valuable role to play in countries where more than one organisation would be involved in the execution and analysis of the national survey.

D. Survey Calendar

20. The Meeting considered that a realistic and detailed timetable of survey operations was necessary for the proper planning and successful implementation of each national survey. To assist in the development of these survey calendars, a prototype survey calendar, indicating at a minimum the sequential order of each of the main phases of the survey at the national level, should be prepared by the WFS Central Staff. The Central Staff should also consider the possibility of preparing prototype survey calendars that would include rough estimates of the time needed to complete each phase of the survey. Since time requirements may vary widely according to the circumstances of different countries, it might be necessary to prepare a limited number of such calendars to reflect the range of local conditions likely to be encountered.

21. The Meeting recognised that any prototype calendar must be considered as a model which must be adapted to the conditions prevailing in each country participating in the WFS. It was stressed that the detailed survey calendar for each participating country should be agreed upon between the country and the WFS before the survey's operations are started.

IV. MAJOR COMPONENTS OF THE NATIONAL SURVEYS

22. The Meeting, in discussing the major elements of the national surveys, had before it the background documents and the report of the First Ad Hoc Technical Advisory Meeting. The Meeting recognised that a survey such as the WFS was necessarily a complex undertaking with many interrelated aspects. Given the variety of national circumstances in which the WFS would be undertaken and the limited time available to the Meeting, it was considered unwise to try to discuss the entire survey operation in detail. Instead, the Meeting confined its attention to four major components of the national surveys: (a) survey methodology and field work; (b) sample design, quality control, and evaluation; (c) data processing; and (d) analysis, reports, and publication.

23. With regard to these broad topics, the Meeting tried to set forth a number of procedural norms, rather than inflexible rules to be blindly followed. It was recognised that departures from these norms would be necessary and desirable. Nevertheless, it was the Meeting's view that some general statements about the nature of the contemplated survey would be helpful.

A. Survey Methodology and Field Work

24. In discussing survey methodology the Meeting recognised that one of the main objectives of the WFS was to obtain comparable data from different countries. It was therefore necessary to develop definitions, questionnaires, instructions, coding, and tabulations with that purpose in mind.

25. To this end, the Meeting recommended that the WFS Central Staff prepare a package of documents dealing with each of the phases of the project, for example, a model questionnaire, field instructions, guidelines for the selection of interviewers, coding instructions, etc. These materials reduce the burden of conducting the survey for the participating countries, help to ensure greater comparability of data, and are useful in orienting and training senior staff. To be effective, such materials, covering each aspect of the WFS survey, should be carefully developed in great detail.

26. One of the main roles of the WFS Central Staff would be to co-ordinate and review the plans for national surveys in order to ensure that they were consistent with the WFS objectives. It was recommended that any changes in definitions, procedures, etc. be worked out in close consultation with the WFS Central Staff. In some cases, achieving comparability would actually require modifications in line with local conditions, but all changes should be reviewed carefully to make sure that they were in fact consistent with WFS objectives.

27. It was recommended that the WFS Central Staff should prepare a model questionnaire in three languages--English, French, and Spanish--as part of the package of documents mentioned above. The model questionnaire would include both the final core items and such optional items as may be recommended.

28. The WFS Central Staff might also consider selecting some of these standard questions for countries of different regions of the world, thus preparing a set of alternative model questionnaires recommended for the different regions.

29. The model questionnaires should incorporate provision for identifying geographic and enumeration control information. Overloading of the model questionnaires should be avoided. The WFS Central Staff should recognise that the model questionnaires may include some questions which may be omitted in some countries because of local conditions.

30. It was recognised that some countries that have already conducted fertility surveys and would like to obtain results comparable to their previous investigations might have to include additional questions in the recommended questionnaire. Definitions used in fertility surveys conducted in the past, as well as the recommendations made by the IUSSP, should be carefully considered by the WFS Central Staff, to minimise the need for such additional questions.

31. The WFS Central Staff should provide prototype manuals for the field work. The national survey staff in each country would have to ensure

that the prototype manuals, questionnaires, etc., were adapted to fit local circumstances. If translation into one or more local languages is required, care should be taken that all translated documents properly convey the intended meaning. In particular, in survey research it is important that documents used in the field employ understandable, idiomatic expressions rather than literary language.

32. A pretest in every participating country is strongly recommended. This pretest should be conducted in areas of the country that will provide a realistic test of the questionnaire and survey procedures as well as the ability of the staff to undertake the project. The WFS Central Staff should provide guidelines concerning the scope and scale of the pretest as part of the package of documents mentioned above. The scope of the pretest needed will vary depending upon the extent of previous experience in surveys and fertility research in each participating country. (If feasible, the pretest can be carried out in conjunction with the training programme.)

33. One primary objective of the pretests would be to check that the field operations could be carried out according to plan. An evaluation of the pretest should be sent to the WFS Central Staff for information. It was recognised that a pretest of all aspects of the survey was desirable. However, it was generally agreed that the pretesting of the data processing and later phases would not have to be completed before actual field collection was begun.

(a) Methods of interview

34. It was clear that the interview would consist of two separable parts: (a) one dealing with the households, and (b) the detailed interview of selected women. The former might require the presence of the head of the household, and should be conducted first.

35. The first part should be conducted as a standard household interview using the various procedures that are employed to avoid omissions of persons in the enumeration and to improve the quality of the data. Several illustrations were given, as for instance, special probes and check questions, asking for identification documents where this is feasible in order to ensure correct reporting of ages, asking for the collaboration of the headman of the village.

36. The Meeting expressed the view that the collection of information on the household could be undertaken at the stage of listing households in the selected clusters. For this purpose male interviewers could perhaps be used. It was pointed out, however, that it might not be desirable to conduct the first and second parts of the interview with different interviewers. While no definite recommendations emerged from his discussion, it was recognised that this issue would need to be resolved according to the prevailing circumstances.

7. The second part of the interview, the detailed interview of selected women, should, as far as possible, be conducted privately and making all possible provisions to ensure the confidentiality of the responses.

38. It was concluded that, in spite of the different conditions prevailing in developing and developed countries, it could be anticipated that usually two or more visits to the household would be needed in order to contact and complete the detailed interview with the respondent.

39. Whether a team of interviewers is sent from place to place or whether interviewers are assigned to work in an area on an individual basis will depend on the local situation.

(b) Selection and training of interviewers

40. It appears that female interviewers should be used for the detailed interviews of women, unless it is impossible or undesirable for particular reasons in a local situation. Other considerations in the selection of interviewers are age, ethnic group, education, language, motivation, etc. It was stressed that in the selection of interviewers the primary objective was to obtain the most competent interviewers available under the circumstances. The Meeting noted that schoolteachers, midwives, social workers, and university students have performed such interviews successfully in some developing countries in the past.

41. In general, it was thought that interviewers should come from the same part of the country as that in which they would be working. Sometimes, because of language or tribal differences, they would have to be recruited on a strictly local basis. Interviewers should be carefully screened before and during training. More should be selected than are needed, to allow for dropouts and for eliminating those who do poor work. To avoid too many dropouts and eliminations the interviewers should be well paid.

42. All levels of field personnel should be given adequate training both in the classroom and in the field, including experience with varying local situations. In addition, the purposes of the study should be fully explained to all field staff in order to eliminate preconceptions and biases. Generally, between two and four weeks would be required for training interviewers, depending on the level of education and previous survey experience.

43. It was recognised that training continues beyond the end of the formal training period. This continuing aspect of training can be achieved through an early and frequent review of the interviewer's work by the field supervisor and rapid feedback to the interviewer of the results of this review.

(c) Supervision

44. Great importance was attached to supervision of the field work. It was recommended that supervision should be active rather than passive, and should consist of the supervisor going into the field rather than the interviewer coming to the office. Supervision was considered to be necessary at all stages of the field work, although of crucial importance in the initial phases. It was agreed that the number of interviewers per supervisor should be small.

45. Two levels of supervisors were recommended. The first level of supervisor, who works in direct contact with the interviewers, would have very well defined functions, while the second category, including one or more senior supervisors, would have general functions.

B. Sampling, Quality Control and Evaluation

(a) General considerations

46. The Meeting discussed the decision to conduct the WFS in the form of single-round surveys. While the Meeting considered the decision as one which has already been taken, it was anxious to indicate that such surveys--even apart from biases of implementation--may be subject to significant memory biases. Moreover, these biases may affect not only the estimate of fertility levels but also the estimated fertility differentials between different subgroups of the population. This last point may arise due to the fact that memory biases may not affect independently the different subgroups of interest. Particular attention should therefore be devoted, in the context of the methodological research connected with evaluation, to the assessment of the impact of specific biases related to single round surveys on the validity of results.

47. Many different types of biases (in addition to memory biases) can be accumulated in the course of the survey. While some of these are mentioned explicitly in subsequent paragraphs, a general discussion of biases goes beyond the scope of this report. However, the Meeting was anxious to emphasise that the specific survey design in different countries should be developed by considering the likely impact of the design on the different types of biases, and that in calculating the total budget of the survey and its allocation, a conscious decision should be made to consider all significant components of the mean square error and not only the sampling error.

48. While it is undoubtedly true that sample designs will have to be specifically established for each of the participating countries, the Meeting considered it desirable that the WFS Central Staff consider establishing certain model designs. These model designs might recognise, among other factors, regional variations as well as differences (and their implications for sample design) of the following types of "typical" situations: (a) the major, often overcrowded, metropolitan centres; (b) the small to medium-sized towns (often commercial and distribution centres); (c) the rural population living in diffuse settlements; and (d) the rural population living in compact villages.

49. While the Meeting would certainly encourage the consideration of the full range of available sampling techniques, it felt that the selection of the particular sample design in individual countries should be made in full recognition of the overriding need to ensure that the design can be implemented in the field and is capable of being checked.

(b) Sampling considerations

50. All recommendations in this section are, as a necessity, of a general nature. As mentioned in the preceding paragraphs, the specific designs have to be developed in the context of the particular situation in individual countries. The recommendations may, however, still be useful as general guidelines which should be considered and, if not accepted, there should be substantive and identifiable reasons for not doing so.
51. The Meeting affirmed that the sample design should generally be based on the principles of probability sampling. Moreover, the Meeting recommended that in the overwhelming majority of situations such probability sampling could only be accomplished by using area samples. Exceptions to this last recommendation may occur where a complete and verifiably up-to-date list is available. However, the Meeting believed that such situations are exceptional.
52. In delineating the primary sampling units of the sampling frame, it is important that these areas exhaust the total population of the country (possibly with identifiable exceptions, such as the nomadic population, or the population in large and sparsely settled areas). The sample areas should generally be as small as possible but subject to the condition that they should have well defined boundaries and that there should be a reasonably workable procedure of attaching uniquely households and persons to the areas so delineated.
53. In connection with the previous paragraph, it should be emphasised that, whereas from the point of view of sampling efficiency the delineation of small areas is desirable (subject to the conditions in the preceding paragraph), other considerations may have to be taken into account in the choice of the size of primary sampling units. These include considerations of cost (particularly travel cost), supervision (particularly in the case of a team of enumerators working in the area), and the methods of quality control and evaluation. Particularly if these involve re-enumeration, because identification problems may arise along the boundaries of primary sampling units, and this may necessitate the use of larger sampling units than purely sampling considerations would indicate.)
54. The Meeting considered the question of sub-sampling within primary sampling units. Depending on the difficulty of delineating sufficiently small primary sampling units and depending on the feasibility of delineating smaller clusters with unique boundaries within larger primary sampling units, it may be feasible and desirable to select smaller clusters within larger primary sampling units.
55. The Meeting also considered the question of sub-sampling of households within selected clusters. The Meeting was generally in favour of avoiding this procedure wherever possible. The reason for this preference is that sub-sampling of households within clusters is generally a more complicated field procedure than the enumeration of complete clusters; it is also more difficult to control and evaluate (particularly if the control and evaluation involves the necessity of returning to the selected households after the original interview).

However, the Meeting recognised that in certain situations sub-sampling within clusters may be difficult to avoid. Such situations may arise in certain large but unstructured village settlements and, under certain conditions, in large metropolitan areas where delineation of reasonably small clusters may pose difficulties. Under such conditions it may be necessary to list the entire cluster (possibly utilising a team of interviewers to do so), and subsequently to select a sub-sample of households from the list so prepared. Given the probable difficulties of locating the selected households some time after the list is prepared, the Meeting recommended that the interviewing of selected households should in such cases be carried out immediately after the preparation of the list and the selection of households.

56. The Meeting also considered the question of sub-sampling persons within selected households. In general, particularly in the context of the developing countries, the Meeting would be in favour of avoiding this procedure. The procedure, if it is to be unbiased, is usually complicated, difficult to supervise, and can lead to coverage errors. The Meeting wishes to emphasise that, if sub-sampling within households is considered, it should certainly not be carried out on a quota sample basis.

57. With respect to the overall sample size of national studies, the Meeting considered the background paper entitled "The World Fertility Survey: Survey Organization" and arrived at the conclusion that, in general, 5,000 women in the reproductive ages should be considered as the approximate lower bound for the sample size, if the main objective of the individual surveys is to prepare estimates of fertility differentials at the national level*. However, if separate estimates of comparable reliability are to be produced for different identifiable subgroups of the population then approximately the same sample size will be required for each of the subgroups.

58. The recommendation in the preceding paragraph is predicated on the assumption that the ultimate cluster size (the number of women in the reproductive ages interviewed within a primary sampling unit) is 300 or less; if larger clusters are used, then, depending on the intraclass correlation, larger sample sizes will be needed.

59. The Meeting emphasised that careful attention should be paid to the determination of the number of primary sampling units selected for the survey. The optimum number of primary sampling units to be selected will depend on a number of factors which are specific to different countries; however, estimates based on fewer than 30 primary sampling units are generally found to be inadequate. The number 30 should not be taken as a guideline; depending on local conditions, more primary sampling units are likely to be needed.

60. The Meeting believed that, if a national survey on the scale recommended above cannot be carried out with adequate controls with

* It should be noted that this implies a national sample size of about 20,000 to 30,000 persons.

respect to non-sampling errors, then the question of whether the study should be carried out at all should be consciously raised, considered and evaluated. In other words, the types of estimates to be derived, and their minimum acceptable mean square errors, should be considered.

61. Depending on the availability of a well trained office staff, data processing equipment, etc., the advantages of utilising self-weighting sample designs should be considered. As a rule of thumb, however, where departures from self-weighting are contemplated, differences in sample weights of more than 5 to 1 should generally be avoided.

62. It is the recommendation of the Meeting that the sample design as well as the budget of the survey should make specific provisions for subsequent calculation of variance estimates. Without specifically endorsing any particular method of estimating variances, the Meeting wished to call attention to the essential simplicity of the replication method for purposes of variance estimation.

63. With respect to the treatment of non-response, the Meeting made the following specific suggestions:

- (a) Substitution in the field is undesirable as a way of dealing with non-respondents.
- (b) One of the specific objectives of national or regional pretests should be to estimate the likely non-response, using a given set of procedures. The procedures should be strengthened to the point where the anticipated levels of non-response become acceptable, relative to the other sources of error in the survey.
- (c) A specific responsibility of the supervisors should be to attempt to convert non-respondent households (or persons) into respondents.
- (d) The evaluation programme should, if possible, attempt to measure the effect of non-response on the substantive estimates. Such estimates might be derived as one of the results of a re-interview programme or record check.
- (e) Regarding the preparation of estimates from the survey, the method of dealing with non-respondents should be spelled out as part of the overall survey design. When imputations are carried out (either at the individual record level or in terms of aggregates), provisions should be made to estimate the effect of the imputations on the substantive data. This can be done either by "flagging" of the individual records and fields which were imputed or by carefully recording the overall correction factors if the imputation was carried out at the aggregate level.

64. The Meeting provided no specific guidelines concerning the method of estimation. However, the estimation method should be considered an integral part of the survey design and it should be documented.

(c) Quality control

65. The following paragraphs correspond to the major operational activities which lend themselves to checks and quality controls.

66. First, specific office procedures should be worked out by the senior staff in each participating country in consultation with the WFS Central Staff to check and ensure that the sampling frame does not inadvertently omit or duplicate part of the population.
67. Second, during all steps of sample selection, adequate records should be kept of all procedures, random numbers, arithmetic operations, etc. Office supervisors should carry out at least some spot checking to ensure that the sample selection was carried out in accordance with the sample design.
68. Third, preferably all, but at least a sample of selected clusters should be subjected to a check of their boundaries by supervisory staff. The objective is to have interviewers and supervisors clearly and unambiguously identify the boundaries of all selected clusters.
69. Fourth, during the national pretest, specific checking should be carried out concerning the design of questionnaires. This checking should concentrate on recording of response problems that may arise due to the wording of the questions and the physical layout of the questionnaire.
70. Fifth, with respect to the quality control of the interviewing process itself, the Meeting wished to make the following comments:
- (a) By means of initial selection tests and during the course of the training programme, obviously unqualified interviewers should be eliminated prior to the commencement of the survey.
 - (b) Wherever feasible from the point of view of logistics, completed questionnaires should pass from the interviewers through the supervisors to the head office. Particularly during the early stages of the survey (but preferably continuing through all the survey), the supervisor should check all or most questionnaires for obvious omissions and misunderstandings by the interviewers. The emphasis should be on checking and identifying gross errors, omissions, and misunderstandings rather than detailed editing. If the control work of the supervisor is too ambitious, there is a real danger that it may not be carried out adequately.
 - (c) At regular intervals, the supervisor should inspect the assignment of each of his interviewers to see that selected households are not skipped, that dwellings near the boundary are properly handled, etc.
 - (d) A small "random" sample of households should be selected at scheduled but unpredictable intervals by the supervisors. The questionnaires completed by the interviewers for the selected household should be verified by supervisors by contacting the households concerned. The Meeting wished to underline that the emphasis should be on key items and the most important potential problems rather than on comprehensive re-enumerations.

The results of this verification should be recorded by the supervisors and discussed with the interviewer concerned.

- (e) Through all these activities the supervisor should be required to keep detailed records of the results of his checking activity. When the interviewer completes his assignment, these accumulated supervisory records, together with some additional control items (such as selected main tallies logged in by the work unit) might be used within the context of a formal acceptance procedure. Work units failing the formal acceptance test may be returned to the original interviewers, or, in case of particularly bad work units, to a different interviewer.
- (f) The number of interviewers assigned to a supervisor should be consistent with the task of the supervisor. This should be carefully monitored: overloading supervisors by a quality control programme which is too ambitious can only result in its being carried out poorly (if at all).
- (g) An important benefit of quality control is the knowledge of interviewers that their work will be checked. Thus at least a portion of the quality control programme should be carried out at times and in households which cannot be anticipated by interviewers.

71. Sixth, a weak link in several quality control programmes of the kind described above has been inadequate control of the primary level field supervisors. It is important that supervisors know that their work will be checked by a senior supervisor or regional director. Such checking can involve, among other procedures, the following: checking on the applications of acceptance rules as applied by supervisors to the interviewers' assignments; checking on records kept of quality control work; talking to some of the interviewers to ensure that the supervisor has visited a sample of households and discussed the results of the interview with them, etc.

72. Seventh, with respect to the quality control of office work, the Meeting emphasised the need for an adequate filing and storage system. Survey documents must be maintained in a satisfactory physical condition and must be accessible.

73. Eighth, a document control system should be implemented. The document control procedures should make provisions for keeping track of work (cluster listings, questionnaires, etc.) not yet received and for recording the arrival of questionnaires, the time of their arrival, and the name or code of the interviewers and supervisors. These records will facilitate the monitoring of the current progress of the study, area by area as well as interviewer by interviewer. The document control system should also make provisions for keeping track of the document flow during office processing, i.e., questionnaire in editing, coding, punching, filed as completed, returned to field for correction, etc.

74. Ninth, with respect to clerical editing, coding, and keypunching, the Meeting recommended the implementation of a formal system of quality control. Such a system would typically involve the selection of a sample

of records to be verified. (Of course, the sample may, in the extreme, be a full count.) The Meeting expressed a preference for the so-called independent verification method. However, if dependent verification is used, some procedure of re-verification should be considered.

75. The major effect of quality control of editing, coding, and key-punching must be an early and continuing feedback to the respective operations. The form of feedback may relate to the staff employed (its retraining and/or release) or to the data that was processed (acceptance sampling).

76. The Meeting recommended that records should be kept of the results of the quality control of these operations. Such records will be invaluable, not only as part of the formal control system itself, but also subsequently, during the evaluation stage.

77. Tenth, with respect to data corrections and treatment of non-response, the Meeting recommended that arrangements be made to ensure that the impact of such treatment (e.g., explicit imputations or the omission of non-respondents in computing rates, etc.) can be identified. If corrections and/or non-response adjustments are made at the individual record level, such records (and fields within records) should be identified; if corrections and/or non-response adjustments are made at the aggregate level, the factors involved should be carefully recorded. In this fashion, the overall impact of corrections and/or implicit or explicit adjustments should be assessed at the national level and by smaller disaggregations. This information is invaluable for identifying gross errors committed at any stage of collection or processing of the survey data and it is also invaluable during the evaluation stage.

78. Eleventh, the main aggregates in the basic tables should be carefully checked out. The checking involves verifying arithmetic (the summarisations), transcription errors, printing errors, etc. A final professional review is usually helpful in identifying gross inconsistencies.

79. Twelfth, the Meeting recommended that the WFS Central Staff should spell out the details of two or three acceptable systems for the most important stages of quality control outlined above.

(d) Evaluation

80. It has already been emphasised in this report that the survey design should make provision for the estimation of sampling errors. The Meeting recommended that, as part of the overall evaluation of the survey data, the sampling error of a sufficient variety of tabulation cells should be estimated so as to permit the development of generalised statements (in the form of curves or tables) relating the size of sampling errors to a number of observations. Such generalised tables or curves should be developed for several types of disaggregation, (national, regional, etc.). It is suggested that the WFS Central Staff should prepare some guidelines and be available to provide assistance.

81. As part of the overall evaluation programme, a search should be made for sources of independent estimates related to the topics of the survey.

Such independent estimates should preferably be objective, but even subjective estimates can be useful under certain conditions. These independent estimates should be compared with the estimates derived from the survey and the reasonableness (or otherwise) of the comparisons established.

82. The Meeting emphasised that neither agreements nor disagreements between survey estimates and external evidence should be considered as conclusive indicators of the quality of the survey. Rather, they should be utilised as indicators as to the direction of further investigation and research. In general, the approach recommended consists of considering all the available evidence concerning the reliability of the survey estimates.

83. The core questions included in the WFS cover a wide variety of subject-matter fields. Several of the estimates derived from national surveys should therefore be related to one another in certain generally predictable fashions (and within some broad tolerances). These relationships provide opportunities for internal consistency checks. The Meeting recommended that the WFS Central Staff should work out specific guidelines with respect to the core questions to indicate the possibilities for specific internal consistency checks.

84. Just as in the case of external checks, the Meeting emphasised that internal consistency checks should not be considered as definitively establishing the existence of major biases or the lack of them; rather, they should be used in conjunction with other evidence to assess the overall quality of the survey.

85. The Meeting wanted to emphasise in connection with external and internal consistency checks that it did not wish to restrict the scope of evaluation to direct comparisons between two specific estimates. It called attention to the possibility of using, in addition, derived estimates which can be obtained through analytical techniques. These derived estimates might, under certain conditions, provide indirect measures of certain characteristics which can be compared with some direct or other indirect measures derived from the survey. The utilisation of such derived estimates for internal and external consistency checks should be spelled out by the WFS Central Staff, together with the relevant conditions under which they may be applicable.

86. Although some disagreed, most of the participants in the Meeting strongly recommended that a re-interview programme and/or record matching should be carried out as part of the overall evaluation programme. Record matching can be carried out utilising existing administrative records, previous survey or census records, or other relevant files (e.g. civil registration system records) containing information related to the subjects of the survey and covering the whole or even just a part of the universe of the survey. If a re-interview programme is carried out, the Meeting recommends that this be done shortly after the end of the survey and as independently as possible.

87. It was recommended that the re-interview and/or record matching programme should be planned for and budgeted as an integral part of the overall survey programme.

88. With respect to the subject matter covered by the re-interview programme, the Meeting recommended that this should be restricted to a selection of a few critical content items rather than to the full range of subject matter of the original survey. The re-interview and/or record matching programme should provide gross and net estimates of coverage errors. They may also provide estimates of content errors, particularly measures of the so-called "simple response variance", indicating the inherent instability of measurement of some of the characteristics.

89. The Meeting recommended that the WFS Central Staff prepare one or more evaluation programme manuals which would spell out the overall logic and benefits of evaluation, indicate the relative emphasis to be given to the alternative approaches that are available, provide guidelines with respect to the execution of specific approaches to evaluation, and indicate how the results of different evaluation programmes can be summarised and presented in the form of a comprehensive assessment of the survey.

90. The Meeting affirmed that methodological research should be properly considered as a counterpart of evaluation. It should be emphasised that, particularly in the context of a major undertaking such as the WFS, the methods used as well as the estimates obtained from the surveys should be evaluated. Therefore, the Meeting emphasised in particular that the WFS Central Staff should be instrumental in negotiating specific methodological investigations in a selection of countries. These investigations should be aimed at specific problems. The Meeting wanted to call attention particularly to the need to study the effectiveness of single-round retrospective surveys for the collection of data relating to fertility. Experimental designs in selected countries should be established to compare the results obtained from a single-round survey with alternative methods of data collection.

C. Data Processing

(a) Introduction

91. It was noted that the First Ad Hoc Technical Advisory Meeting on the WFS had expressed the view that it would be desirable to process the survey data in the respective countries if this was at all possible. In respect to countries lacking adequate data processing facilities or staff, it would be necessary to up-grade national processing capabilities or to arrange for processing either centrally or in a nearby country. There was general agreement with the view that the WFS Central Staff would need to play a vital role in the definition of the tabulation programme and ensuring that such a programme would be properly implemented.

(b) Instructions for editing

92. The development of a detailed set of instructions for editing cannot be undertaken until such time as the questionnaire has been finalised. There was need for the WFS Central Staff to prepare a manual for checking and editing of survey questionnaires. There was agreement among the

participants in the Meeting that checking was a continuing process and had to be undertaken at each stage in the survey beginning with the supervisor in the field. The extent of office editing is determined in some degree by the quality of the supervision (checking and correction in the field would considerably reduce the need for office editing). There were some possibilities of computer editing and mechanical correction of incorrect items. However, the extent to which this could be done was dependent on the size of the computer, as complex edits and corrections require a sizeable computer core. It was thought to be necessary, for both manual and automatic computer editing, to specify with great care the nature and extent of the edits. It was felt that a complete verification of cards punched would further ensure a reduction of errors.

(c) Classification and codes

93. The Meeting generally agreed that existing international classification systems should be used by the WFS to the extent feasible. However, it was felt that it would not be advisable to tabulate data at detailed code levels for international comparisons, given the size of the sample selected in each country, although some countries may wish to classify in detail. It was considered desirable to have the questionnaire precoded, where possible. Open-ended questions, while sometimes almost essential in the case of topics touching upon attitudes, were thought likely to pose difficulties, particularly with respect to the development of code and comparative analysis.

94. On the question of defining rural/urban by some population-size criteria, the general view expressed in the meeting was that countries ought to be given flexibility. This was, however, likely to pose problems in terms of meaningful international comparisons. It was felt that the WFS Central Staff would need to take into consideration the work being done by the IUSSP in this field.

95. The Meeting recommended that the WFS Central Staff, after some pretesting of the questionnaires, develop a common classification and codes system. It was recognised that countries should be given some flexibility and freedom to incorporate into the system their own special requirements arising from the need to tabulate data, for instance, on the basis of ethnic and religious groups in the country.

(d) Tabulation programme: EDP programming

96. The development of a basic set of recommended tabulations by the WFS Central Staff was recognised as meriting special attention. Standardised tables specified in advance would aid in the prompt processing of data and help to ensure the availability of comparable data for different countries.

97. The development of a common set of computer programmes for use in different countries was considered to be desirable even though the machines available in the different countries were not always compatible. It was recognised that machines produced by a single manufacturer could not utilise some programmes written for a different model. The WFS Central Staff, it was felt, would need to review the range of machines, models, and operating systems available in different countries and then investigate the availability of standard software packages which could be appropriately used.

98. The WFS Central Staff should investigate the feasibility of developing general packages for those processing stages which cannot be carried out using available packages. Advice on the availability and applicability of such packages would be transmitted to the National Directors. The WFS Central Staff would need to provide financial and/or technical support to countries which were unable to use packages in existence. In addition, it might be helpful if the WFS Central Staff developed a well documented system design which would cover the most important stages of data processing of the core questions and which would facilitate the writing of custom-made programmes for machines which cannot accommodate the general software packages.

99. Mention was made of the IUSSP request to USAID for funds to develop a Manual of Recommended Guidelines for Coding and Tabulation of Comparative Fertility Surveys. The Meeting was informed that USAID had suggested that the IUSSP approach the WFS concerning this matter.

100. In the case of countries lacking data processing facilities, the possibility of processing in either a neighbouring country or centrally was viewed as the only practicable solution. There were, however, problems which arose out of a reluctance on the part of some countries to send data away for processing as there were fears of a breach of confidentiality requirements. The WFS Central Staff would need to adopt a country-by-country approach in such instances, and resolve the issues in consultation with the concerned authorities in each country.

101. The Meeting recommended that each participating country, consistent with its confidentiality requirements, provide the WFS Central Staff with a full set of the finally processed micro-records, either on tape or in the form of punchcards, with all relevant documentation.

(e) Selection and training of personnel

102. The Meeting did not see a need for special training of EDP personnel in the participating countries. However, the WFS Central Staff would need to have a capacity to render assistance in the training of personnel if the need arose in some countries. It was recommended that there should be some budgetary provision for such activities.

103. The extent to which EDP assistance would be required would be dictated by the type of agency selected in each country to undertake the WFS. If the selection criteria included the availability of EDP facilities as an important element, the need for support would be minimised.

104. Although training in EDP was felt to be likely to provide long-term benefits to participating countries, views were expressed that this should not be a major objective of the WFS.

105. The Meeting recommended that, given the important role of EDP in the implementation of the WFS programme, early action should be taken to appoint a person competent in the EDP field to the WFS Central Staff. There was a considerable amount of work that needed urgent attention, the Meeting felt, if the time schedule envisaged was to be met.

D. Analysis, Reports, and Publication

106. The Meeting considered the analytical and research activities to be carried out by the WFS at the national level and emphasised the importance of this aspect of the WFS for the success of the entire programme. A review of recently conducted fertility surveys indicated that, due to a variety of circumstances (such as shortage of personnel, shortage of funds, lack of local experience, etc.) a major shortcoming of many of these surveys was the failure to publish results or their inadequate analysis.

107. The Meeting suggested that adequate resources and time for research and analysis should be provided for in the national survey budget and calendar. The analytical and research programme should consist of four kinds of activities:

- (a) Simple presentation and interpretation of the main findings of the survey.
- (b) Substantive analysis of the survey results.
- (c) Studies on the demographic, social, and economic implications of the main findings of the survey, as well as studies concerning the implications for national population policies.
- (d) Studies of the methodology and the execution of the survey (in accordance with the evaluation programmes specified above in paragraphs 80 through 90).

108. The national research programmes might be supplemented and supported by more intensive demographic and statistical research on the international level, with respect both to the analysis and interpretation of results and to evaluation of the survey. Evaluation of the entire WFS study design or specific aspects of it might be conducted through special studies in selected countries. These special studies could be assisted and/or executed by the WFS Central Staff and possibly by other international bodies.

109. The Meeting expressed the general view that the execution of the analytical and research programme outlined in paragraph 107 should be organised in such a way that the more detailed analytical and methodological studies should not delay the publication of basic survey results. A number of countries have sufficient research personnel and resource capacity to conduct such a programme. The Meeting recognised, however, that shortage of competent staff in many countries might lead to difficulties in completing the programme within a reasonable time period. In these situations, the Meeting recommended that an attempt be made to mobilise the research capacities available in the country, under the guidance of the National Coordinating Committee. A mobilisation endeavour might be directed at interested professionals in agencies not directly responsible for conduct of the survey, institutions and professional societies, and particularly local universities and research centres.

110. The Meeting also emphasised that there was a definite and urgent need to train national research personnel for such a major undertaking in many countries. It was stressed that the training of these personnel should begin at an early date.

111. Several kinds of national reporting and publication programmes were reviewed. The Meeting generally agreed that the programmes adopted should ensure the timely and maximal utilisation of survey results. The following types of national reports were suggested:

- (a) General report on the survey, specifying its most relevant main findings, especially those most important for the particular country. This report should include a brief outline of survey methods and procedures and appropriate statements on the limitations of the data.
- (b) Comprehensive substantive report, presenting detailed tabulations of survey findings. This report should also contain full descriptions of the survey methodology and procedures, and the basic results of the quality control operations and evaluation studies.
- (c) Special-purpose analytical reports based on the survey results. As an example, the Meeting proposed the preparation of a special report on such findings as might be considered important for national population, social, economic, and other policies.
- (d) Detailed reports of specific methodological or evaluative studies.

112. Results should be made available to the WFS Central Staff in a form agreed to by the Central Staff and the individual participating countries. As regards basic tables related to the core questions, the publication programme should closely follow the recommendations for standardisation of tables for international comparability. The Meeting noted that in many cases additional tables will be necessary to meet national needs.

113. The Meeting suggested that the standard tables to be recommended by the WFS Central Staff be classified according to their priority. Consistent with national requirements of participating countries, tables of higher priority should be published first in the national publication programme.

V. TECHNICAL AND OTHER ASSISTANCE

A. Orientation and Training of National Directors and Professional Staff

114. As regards National Directors, the Meeting agreed that it would be desirable to train all such Directors at one or a few central points. Such training should be in the nature of extensive briefing, geared to go through a mock survey of the entire programme from the preparatory stage to the analytical stage. The Meeting urged that the phasing of the survey be recognised, so that such briefings might be begun at an early stage. It would be necessary to expose the Directors to actual field work during the briefing. No definite recommendations were made regarding the length of such briefings.

115. The Meeting felt that in some cases the briefing of National Directors might include one or more of the Director's senior staff members. Senior technicians, field directors, and/or analysts might either accompany the National Director to the international or regional briefing, might attend separate regional training sessions, or might be trained by him within the country.

116. Interviewers, coders, editors, and the first level of supervisors should be trained nationally. This training would be carried out by the National Director or his senior staff.

117. In connection with the training of national staffs, the Meeting agreed that it would be necessary for the WFS Central Staff to prepare:

- (a) A Reference Manual describing the questionnaire and the basic procedures to be followed in conducting the survey in the field.
- (b) An Interviewers Training Manual, to be used in training the interviewers, but to be supplemented by the Reference Manual.
- (c) A Supervisors Reference Manual, detailing to the supervisors the actions required at particular points of the survey, as well as necessary edits and checks to be carried out on the interviewer's work.
- (d) A Supervisors Training Manual, for use in training the supervisors.

B. Other Types of Assistance, Including Financial Assistance

118. As discussed in paragraph 10 above, the Meeting recognised that participating countries would bring to the WFS a wide range of skills and resources, and would benefit by participation in a variety of ways. It was expected that all countries would benefit by participation in the sense of obtaining valuable, current information on fertility and fertility regulation. Moreover, the possibility of making multi-national comparisons of results would not only be of value to research specialists but would also provide a clearer picture of national fertility patterns to policy makers in individual countries. Over the long run, countries, through participation in the WFS programme, could also expect to increase their technical capacity to carry out further fertility and demographic research.

119. In addition to these considerations, the Meeting identified three types of assistance one or more of which might be needed by a number of participating countries:

- (a) Financial assistance to pay local costs for conducting the survey.
- (b) Expert assistance to participating countries during the period of the WFS.
- (c) Short term consultant assistance from experts in various fields connected with the survey, such as sampling, data processing, etc.

120. The Meeting emphasised that a number of developing countries would be able to participate in the WFS programme only if financial assistance were available to meet local costs of interviewing and supervising as well as other necessary staff costs. Financial assistance would need to include transportation costs, perhaps even some transportation equipment, computer software for analysis, and even rental of data processing services if required. Countries receiving such assistance could almost always meet the salary costs of permanent staff who were on the regular budget, provide needed office space, etc. These resources would represent the participating country's contribution.

121. The Meeting recognised that the provision of expert assistance in the form of consultants who would reside in the country would be limited to those countries lacking an adequate capability for conducting the survey, or where the suitable persons could not be freed from other important activities. Such expert consultants could, for example, be demographers, system analysts, or survey statisticians, as well as expatriate national directors, where this was considered necessary. It was also noted that the WFS Central Staff had already considered the need to establish a panel of consultants who would be available to go to countries on short-term assignments to assist with national surveys.

VI. OTHER ACTIVITIES OF THE WFS CENTRAL STAFF

122. The Meeting recognised that there were many other activities which the WFS Central Staff would have to carry out, but which could not be considered in the time available. For example, no discussion was devoted to the monitoring activities of the WFS Central Staff vis-a-vis the national surveys, other than noting that careful monitoring would be essential to the success of the WFS programme. The Meeting did, however, give some attention to the WFS publication programme and was informed of the intended phasing of operations.

A. Publications

123. The Meeting considered the publication aspects of the WFS programme and stressed that this should extend through the duration of the programme and cover a range of different kinds of releases and reports. The WFS Central Staff would be responsible for the preparation of these publications, which would be made available in several languages. They would include the following:

- (a) A general brochure. The Meeting suggested that the WFS prepare, as soon as possible, a general brochure on the WFS. The object would be to describe the enterprise in general terms for the information of governments, the press, and the general public.
- (b) Press releases and other publicity. From time to time, press releases may be issued, but local publicity (e.g., newspaper articles or broadcasts) will have to be handled in an ad hoc manner, according to demand. The general principle should be to avoid premature announcements, but to welcome publicity for the enterprise if there is any general interest in it from the usual public information media.

- (c) Training and operations manuals. The WFS Central Staff should prepare manuals of instruction as part of the general training programme. These should include such topics as sampling, survey administration, field procedures, coding, editing, data processing, and evaluation.
- (d) Occasional publications. Some of the background documents prepared for the WFS should be published. Two in particular have been proposed to be published in time for the World Population Year (approximately August, 1974):
 - (1) A bibliography of past and ongoing fertility surveys, an extension of those prepared for the First Ad Hoc Technical Advisory Meeting.
 - (2) A statement of the outstanding methodological matters requiring further research for the purposes of fertility study.

Another possibility is in regard to a project now underway, sponsored by the IUSSP and providing for a multilingual dictionary of demographic terms: priority consideration for fertility terms should be encouraged.

- (e) Report on the project development phase. The object of this publication is to prepare, in two years' time, a complete plan for the implementation phase of the WFS. This publication will have to be written for presentation to the sponsoring organisations, and at present it is not clear whether it should be more widely disseminated. A shorter, less technical report might be desirable for general publication.
- (f) International substantive publications. In addition to national publications, the WFS programme should provide for extensive international publications, presenting the methods and results in a way to maximise their international use. Attention should also be given to international studies on the demographic, social, and economic implications of the main findings of the WFS.
- (g) WFS Bulletin. The WFS Central Staff should also consider issuing a periodic or occasional bulletin to inform the participating countries and other interested persons and organisations about the progress of the WFS programme.

B. Phasing of Operations

124. The Meeting was informed that some consideration had been given to the phasing of operations of the WFS Central Staff. In broad outline, the phasing of work for the WFS Central Staff for the first two years (the Project Development Phase) is expected to be as follows:

- (a) Installation of office and office staff in London and The Hague.
- (b) Drafting of questionnaire, including preparation of statement concerning methodology proposed.
- (c) Concurrently with (b), consideration of countries to be approached with invitations to participate and methods of approach to be adopted.

- (d) Concurrently with (b) and (c), preparation of some review reports for presentation at the World Population Conference in August 1974.
- (e) Approaches to countries and formulation of a tentative list, on a sequential basis, of prospective participants.
- (f) In consultation with other agencies or individual countries, inquiry as to whether surveys already contemplated could be used for the WFS.
- (g) Estimation of the nature and extent of assistance required by particular nations.
- (h) Designation in participating countries of the local executing agency or agencies and the National Director.
- (i) Arranging necessary training by provision of manuals, conferences, training schools, etc.
- (j) Arranging for pretests and pilot surveys.
- (k) In consultation with the National Director, drawing up a survey calendar for the three operational years in each participating country.

125. At the completion of this phase, the WFS should be ready to launch the field work, the programme being arranged so as to spread the workload as uniformly as possible over the three operational years. Each participating nation would have its own survey calendar, to which it would be strongly pressed to adhere. The WFS Central Staff would give assistance in the preparation of the calendar when required, in the light of information the Central Staff had collected about the time-path of previous surveys.

Appendix A

LIST OF PARTICIPANTS

Milos Macura, Chairman

Gyorgy T. Acsadi	S.S. Heyer
Pierre Cantrelle	D.B. Lahiri
Ana Casis	Daniel B. Levine
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Maurice G. Kendall	J. Chr. Verstege
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Appendix B

LIST OF PAPERS AND BACKGROUND DOCUMENTS

Papers

"The World Fertility Survey: Survey Organization",
by Eli S. Marks

Background documents

"A Study of the Correlation of Unrecorded Events in
the Liberian Fertility Survey", by John Rumford

"Some Aspects of the Survey Design for the Moroccan
Population Growth Experiment", by I.P. Fellegi

Methodology of Demographic Sample Surveys ...
(Copenhagen) ... United Nations, Series M, No. 5

"... Report on the Technical Meeting on Methods of
Analyzing Fertility Data for Developing Countries
(Budapest) ..." United Nations E/CN.9/241

Operational Control for Demographic Surveys,
by Walt R. Simmons

Appendix C

AGENDA

1. Opening remarks
2. Report of the first ad hoc meeting on the objectives and general methodology of the WFS
3. Development of survey methodology
 - a. Questionnaire and instructions
 - b. National pretests
 - c. Sampling: design and procedures
4. Field work and interviewing
 - a. Selection and training of interviewers
 - b. Supervision
5. Data processing
 - a. Instructions for editing
 - b. Classifications and codes (including instructions)
 - c. Tabulation programme: EDP programming
 - d. Selection and training of personnel
6. Organisation of research work
7. Publication programme
8. Survey organisation and staffing
 - a. National survey organisation
 - b. Staffing pattern
9. Orientation of national directors and professional staff
 - a. Regional conferences and seminars
 - b. Methodological materials
10. Technical and other assistance needed
11. Phasing of operations and survey calendar
12. Quality control and evaluation
13. Other questions

Appendix D

LIST OF PARTICIPANTS OF SUBCOMMITTEES

Subcommittee I,	<u>Survey Operations</u> S.S. Heyer, Chairman R.O. Carleton D.J. van de Kaa Daniel B. Levine John C. Rumford Jorge L. Somoza, Rapporteur J. Timothy Sprehe Kalman Tekse
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