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A Proposal to
The Demographic Division
International Development Research Centre
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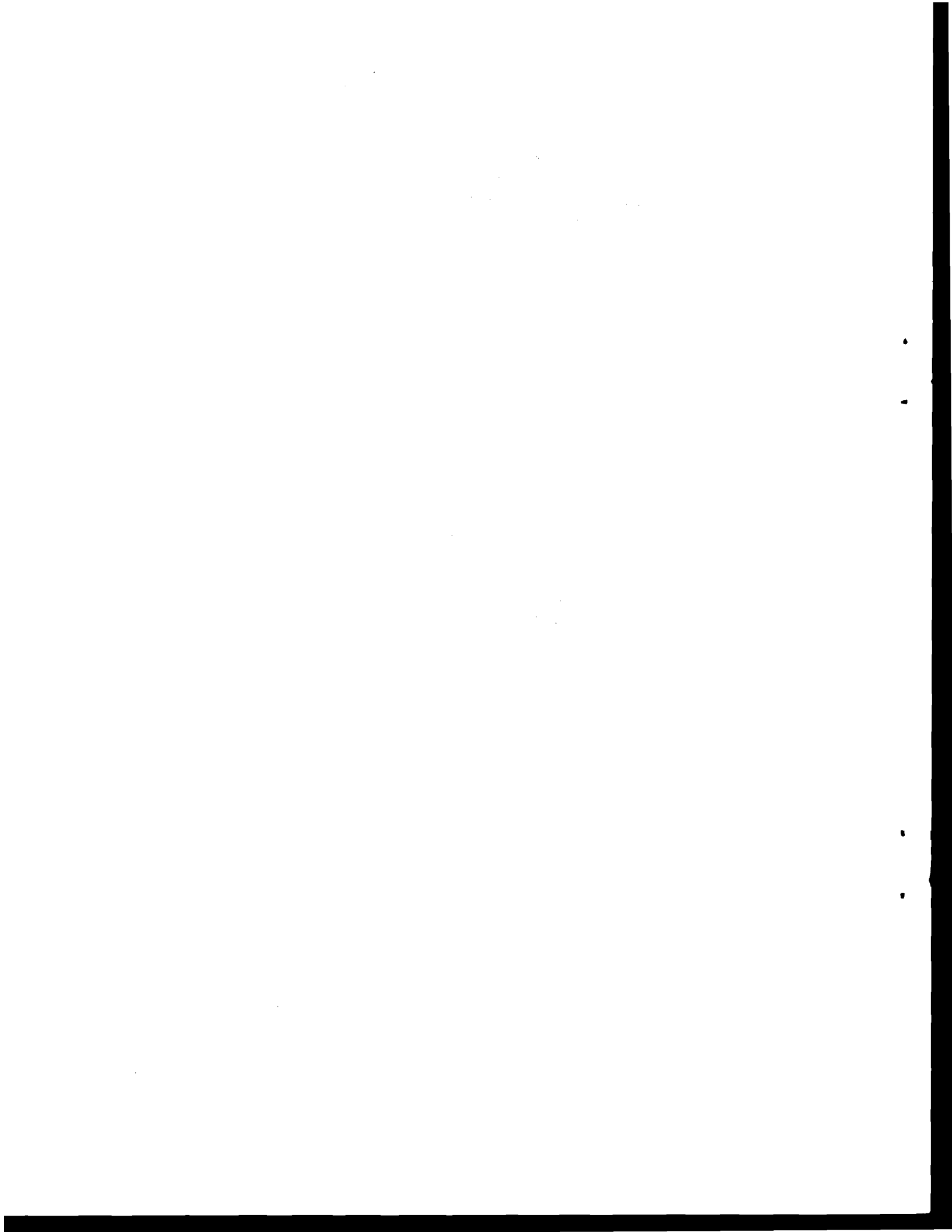
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FAMILY FORMATION DURING A PERIOD
OF STRUCTURAL CHANGE

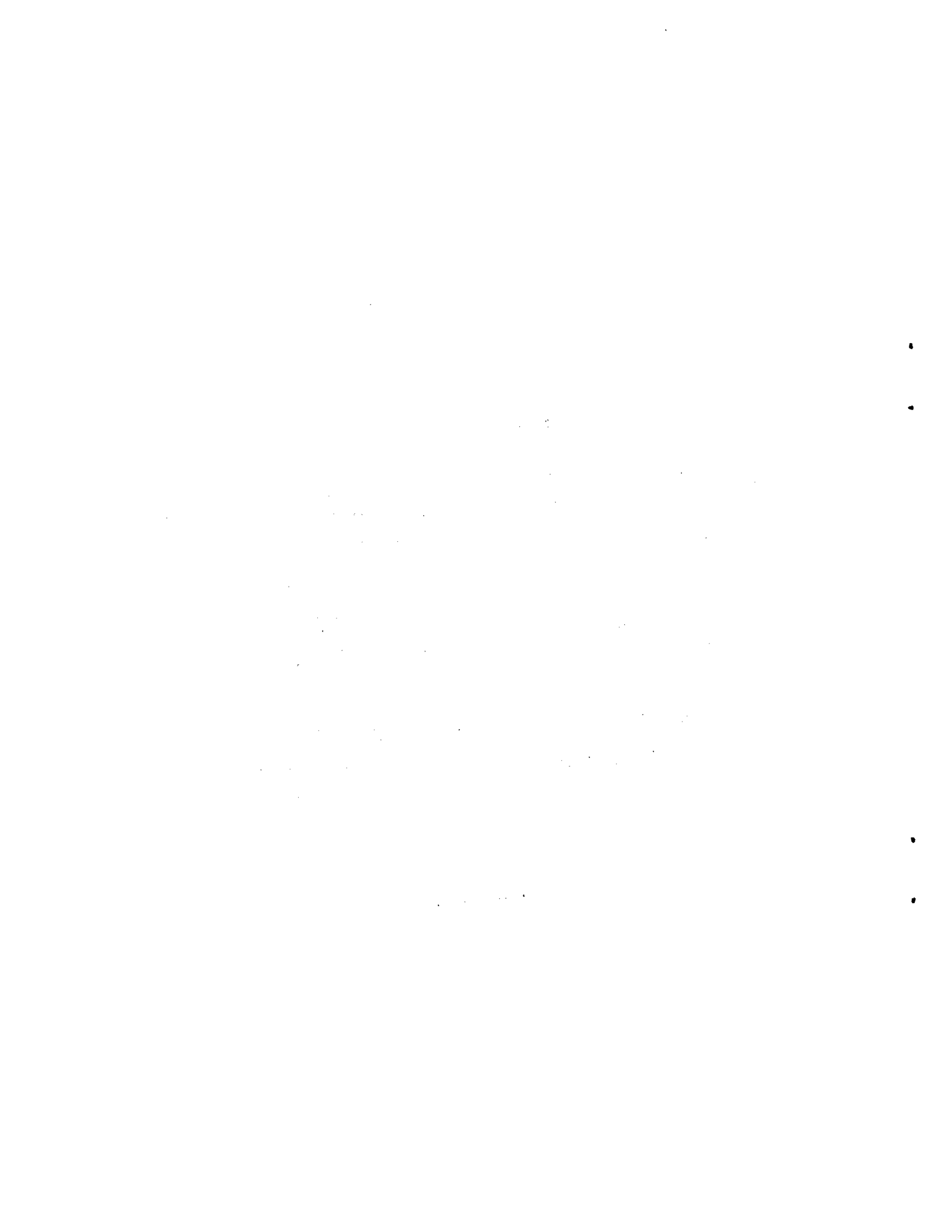
A Study in Recently Established
Peruvian Agricultural Cooperatives

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4 July, 1974.



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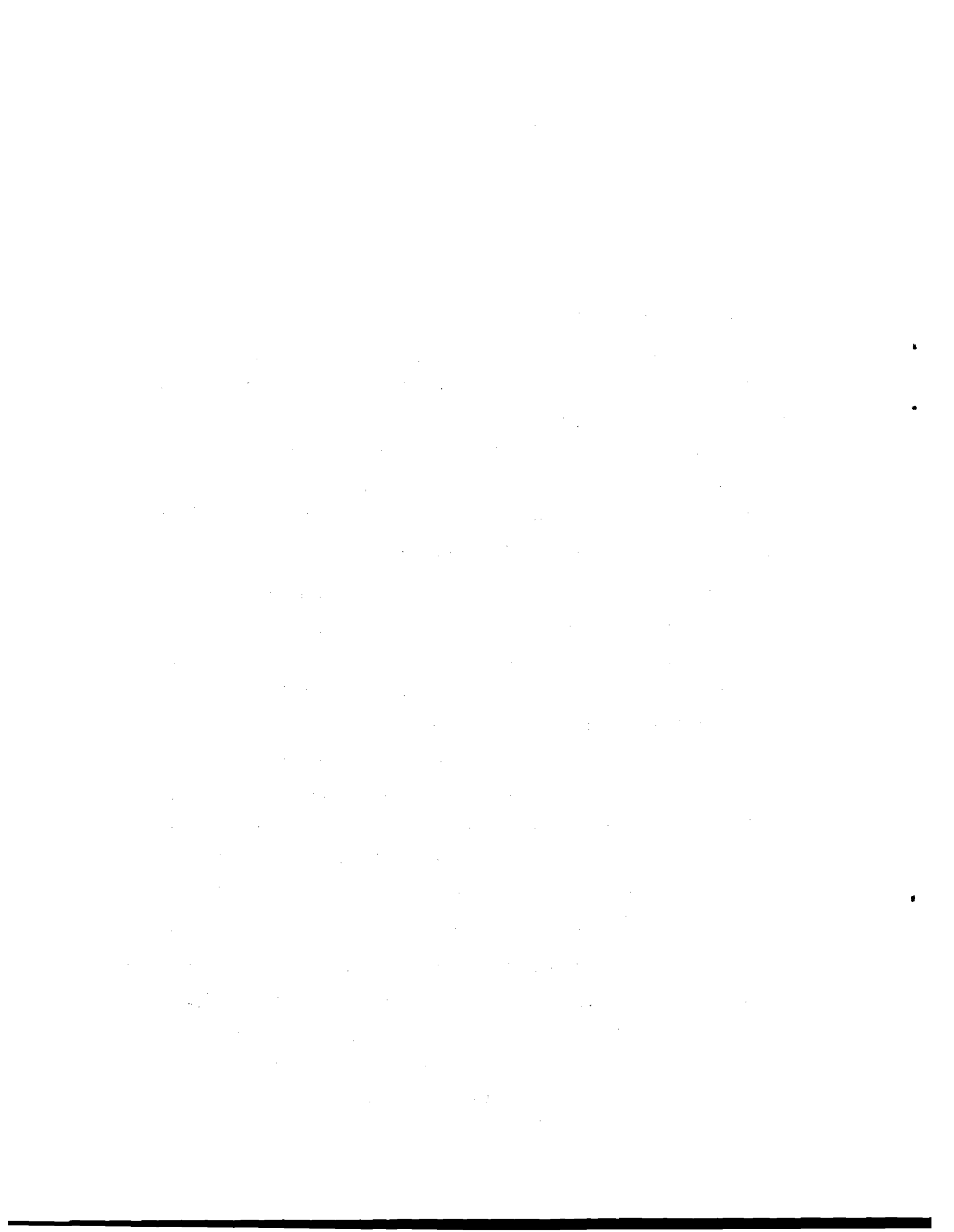


A B S T R A C T

The conventional fertility survey has various limitations when utilized for the study of the effect of social change on family formation in the developing countries. An alternative, particularly when the purpose is hypothesis creation rather than hypothesis testing, is the use of anthropological methods in research settings carefully chosen such that their characteristics and the nature of the ongoing change facilitate the isolation of the relevant factors that may be affecting various aspects of family formation.

It is proposed to apply this approach in a study to be conducted by CEPD in two large semi-closed sugar plantations, with apparent differences in fertility and levels of economic success, each of which underwent a major structural change around 1969-1970 when they were expropriated from their owners and made into cooperatives. Attention will be focused on the mechanisms that relate macro-level features and change to the motivation toward, the capacity to, and the legitimacy of deliberately controlling fertility. Emphasis will be placed on depth interviews with family members. In addition, detailed information on the characteristics of the cooperatives and the changes that have occurred in them will be obtained from documents and key informants.

Since a small fertility survey must be conducted in each cooperative to obtain initial comparative background data, it will be possible to add an explicitly methodological component to the proposed study through the comparison of the survey data results for selected individuals with information later obtained from them through depth interviews.



I. INTRODUCTION

It is a generally accepted assumption that structural, social and economic change are important causal factors in the transition from high to low fertility. However, attempts to find empirical relationships that are supported cross-culturally have been very disappointing. No simple laws of fertility seem to fit all historical or cultural situations. This seems to be Van der Walle and Knodel's (1967) and Coale's (1969) conclusion based on detailed analyses of the European transitions, and the same conclusion appears to apply to Latin America since a preliminary analysis of national level data by Conning (1973a) does not suggest that simple generalizations will be found to account for the apparent fertility declines during the 1960's.

While there are many calls for the detailed study of social change and fertility in the developing countries (for example, recently by the IUSSP, 1973), most studies that have attempted to broach this topic have been handicapped by the fact that they are based on cross-sectional, ahistorically conceived, fertility surveys. Various approaches have been devised to get around this limitation through clever research designs (e.g., the careful selection of communities in the work of Rosen and Simmons, 1971), the use of countries at different stages of the demographic transition to provide a form of hypothetical cohort, and the use of statistical procedures that take into account the temporal priority of variables. However, neither these nor other attempts have resulted in entirely convincing analyses of fertility and social change.

In most fertility surveys information on the local context within which the respondents live and within which change is effected is seldom directly available and the context is even less frequently introduced into the analysis (a review of the few analyses made is found in Freedman, 1974). Recent recognition of this short-coming in the Latin American cross-cultural surveys known as PECFAL-Rural has led investigators at CELADE to try to construct contextual variables after the fact by using census data and by aggregating the survey data itself within sampling areas (see Simmons and De Jong, 1974; Torrealba, 1973; and Simmons and Conning, 1972).

The conventional fertility survey, which without doubt has advanced our descriptive knowledge of fertility, also has had other limitations that may be impeding an understanding of the mechanisms through which change affects fertility behavior. Many of the key attitudinal variables such as

family size preferences, as routinely measured, appear to be inadequate (see Simmons, 1973, and Simmons and Culagovski, 1973, for discussions of ambivalence in family size preferences and other related topics based on an analysis of the PECFAL-Rural data). Indeed, the questions utilized in this regard may be totally inappropriate for some of the populations studied since there is doubt as to whether, for example, the underlying concept of family size is meaningful to the respondents.

While many of the problems of studying social change and fertility may be dealt with through the use of more sophisticated social survey techniques, other approaches must also be utilized. The proposal to be outlined is intended to be a step in this direction.

II. OBJECTIVES

The concern with both the orientation toward the study of the effect of social change on fertility as well as the research means utilized has led CEPD to consider another type of investigation that apparently has been tried previously by few other institutions in Latin America, for which reason the technical assistance of CELADE has been requested. This approach involves the study, using predominantly anthropological methods, of settings in which recent and clearly identifiable structural and/or socio-economic change is occurring that is expected to be affecting fertility. Ideally, the change should be anticipated to permit a natural experiment. To facilitate the teasing out of the mechanisms through which the observed macro-level change is affecting fertility and fertility related variables, it is desirable that such settings be well defined communities which are experiencing macro-level change identifiable fairly precisely in time and in content. In such naturally occurring situations, indepth analysis of both macro and micro-level factors and the intervening mechanisms are more feasible than, for example, in national samples.

The specific project involves research in two relatively large (over 20,000 inhabitants each) semi-closed Peruvian sugar plantations, which were recently expropriated from their owners and made into cooperatives. This is a structural change which has many ramifications which would be expected, a priori, to have an effect on some fertility related variables. Previous demographic studies made by Bazan of CEPD seem to indicate that one of the cooperatives which is highly successful economically has relatively low fertility which may have declined recently, while the other, in financial difficulties, has a high and probably stable fertility level (Bazan, 1973; Bazan, 1974). These sugar cooperatives seem to constitute an excellent setting for investigation during the very process of change.

There are two general objectives. The first and preliminary objective

is to determine whether the interaction between the characteristics of the plantations and the structural changes are likely to be associated with the inter-cooperative differentials in observed fertility and, more importantly for our purposes, in certain fertility related variables. The second, and major objective, is to try to understand some of the mechanisms involved through which the macro-level changes in the cooperatives are translated into changes in the variables related to family formation at the family-individual level and the conditions within which this occurs.

Although an approach involving key informants knowledgeable on the cooperatives and in-depth interviews with family members will be the dominant methodology, because of the need for baseline type information to compare the two cooperatives, a small fertility survey will be carried out. We propose to take advantage of this to include also an explicit methodological component in the project. The inclusion of a fertility survey at an early stage of the work will make it possible later to compare findings based on survey techniques with those of the in-depth interview approach of primary interest in the present study.

III. AN OUTLINE OF THE RESEARCH

1. The Setting

Around 1969, all the large sugar plantations in Peru were restructured as the new military government began a major agrarian reform. The plantations were expropriated and soon turned into cooperatives owned by the workers. These agroindustrial cooperatives have not served as a focus of development in their regions offering social and economic opportunities to the whole population; on the contrary, only those factory workers, white collar workers and agricultural laborers who before the agrarian reform were stable workers on the hacienda, could become "socios" (members) of the new cooperatives and thereby receive such benefits as guaranteed work, credit and advantages in the field of consumption. Fourteen cooperatives with 350,000 persons were formed.

In recent years the sugar elaboration process has continued to be mechanized and labor has increasingly been rationalized so that, despite major diversification, the number of persons who work in the sugar companies has fluctuated little. Although the socio and his family have many privileges that tend to keep the socio in the cooperative, their children do not automatically have the right to work in the cooperative; hence, because the number of employment opportunities are not increasing, it is probable that many of them are leaving each year to earn a living elsewhere. As a result of the limiting of almost all employment to persons who are socios, the plantations have grown into semi-closed communities into which it has become rather difficult to establish residence from the outside and from which there is an outmigration current of young people.

The plantation that was a success both before and after becoming cooperative, Casa Grande, had a population in 1972 of around 35,000 persons. A 1972 demographic survey data of Bazan (CEPD, 1974) not only indicates a moderate level crude birth rate of around 26.5 per thousand (for all Peru it is around 44) and a gross reproduction rate of around 2.1, but suggests that these rates may have been reached in a recent decline. The other cooperative, Cayalti with 21,500 inhabitants in 1973, had economic difficulties both before and after the change of ownership, and in December 1973, the government has directly intervened in its operation. Fertility in 1973 in this cooperative was much higher than Casa Grande; Bazan (CEPD, 1973) measured a crude birth rate of around 49.0 and a gross reproduction rate of around 4.0. The data suggest stability in the rates.

These two sugar cooperatives, selected for the possibility of systematic comparative analysis that they afford, are also desirable research sites because of the previous CEPD demographic surveys conducted there at the request of the cooperatives and the Peruvian government and because the government represented by SAF-CAP/SINAMOS* is now interested in having CEPD assist in the installation of a vital statistic system.

2. The Theoretical Orientation

No pretense will be made of having an integrated theory to explain what is happening in each of the cooperatives. Lacking this, our purpose is to describe and to try to understand the processes inductively in order, at the end of the project, to suggest hypotheses that may be susceptible to objective testing. Such a hypothesis creation, as opposed to a hypothesis testing approach, apparently has been not widely utilized in the form proposed here.

A clear starting point for organizing the present study is the apparent difference in the fertility levels of the two cooperatives. However, the study will not dwell on fertility itself, since it is our belief that understanding of the effect of social change on fertility is not likely to be much enhanced through an analysis of the gross relations of socio-economic variables with fertility but rather through the analysis of the former's effects on the intermediate variables between social structure and fertility. The fertility level is determined by the resultant effect of the intermediate variables. Hence, the relationship between fertility and factors of development may be difficult to establish for the intermediate variables, which may not all change in the same direction. As a given parity may be reached in many different ways the use of a fertility rate can easily obscure the underlying dynamics which are the main interest here. (This orientation, shared by other investigators such as Kantner, 1969: 311, is discussed at length in Conning, 1973b).

* Sistema Asesoramiento Fiscalización de las Cooperativas Agrarias de Producción/
Sistema Nacional de Movilización Social.

For analytic purposes it is convenient to divide the eleven intermediate variables into three subsets, the health, the nuptiality and the deliberate ^{1/} control variables.

The structural reorganization within the sugar plantation and the resulting social and economic changes may have influenced all three of these sets of intermediate variables but in the present study, it seems reasonable to ignore the health set. Although alternations may have been induced in the nuptiality variables such as changing the age of first union and possible changes in the stability of unions, the major emphasis will be placed on deliberate control within marital unions since such changes are likely to be less transient and of most importance in the intermediate and long run.

Analysis of the relationships between specific aspects of the changes occurring within the cooperatives and the deliberate control variables is facilitated by the use of a simple paradigm, developed in different forms by various authors (see, for example, Coale, 1973; Simmons, 1973b; and Conning, 1973b). The paradigm presumes that change in the deliberate control variables depend in varying degrees upon change in three complex "pre-conditions" involving motivation, capacity (including, but not limited to, knowledge of the means of control) and the legitimacy of controlling fertility.

Of necessity, the preconditions must be studied at the family-individual level since the deliberate control intermediate variables all involve actions of individuals. Hence, our concern is to develop an understanding of the mechanisms through which structural change at the macro-level is translated into (or isolated from) the preconditions for deliberate control at the micro-level.

This orientation leads to a concentration on the family rather than simply on the wife, as is common in most studies concerned directly with fertility, not only because of our focus on the preconditions themselves, but because the family, in the context under study, connects the individuals to the cooperative structure. We can illustrate this and the type of working hypotheses that we shall employ in the following manner. The socio and his family receive many benefits from being members of the cooperative. Yet when his children reach working age they find few opportunities for steady employment

^{1/} The word "deliberate" is used rather than "conscious" or "voluntary" to emphasize that a specific action is taken, such as inducing an abortion, but that the level of consciousness of the reasons for the action or its voluntary nature may be very limited. It should be noted that in the logic of the intermediate variables the deliberate control variables, comprising normally contraception, voluntary abstinence, induced abortion and voluntary sterilization, all apply within unions.

and may for this reason have to leave the plantation and probably the region. In the pre-cooperative period whole families might have migrated or working age children may have waited for workers to leave or be fired. Now the benefits of being a socio are great enough to hold the father, and the children may be forced to migrate alone. The male socio and his wife will have experienced the situation before and after the recent change of ownership and this experience may change their orientations toward the formation of their families. In some cases they may begin to develop such orientations which previously were not meaningful concepts to them.

3. Study Plan

The investigation will alternate between data collection at the family level, selecting families typical of the social structure within the cooperatives and at the macro-level. Since the study is not truly longitudinal in design - we have no family level information from the past - retrospective information will have to be obtained through the depth interviews with family members. Naturally, use will be made of the comparison between the two cooperatives.

The initial months of the project (see Appendix A for the Timing) will be devoted to collecting data from documentary material in Lima and in the cooperatives, from university, government and other personnel and from key informants in the cooperatives. Additional tabulation based on the CEPD demographic studies conducted earlier will be made to examine marital fertility levels; at present the fertility levels are for all women. The information will be written up in a working paper to establish the historical context, and to provide a description of the productive, demographic, social and level of living aspects of the plantations before and after the change to cooperatives.

Toward the end of this first period a short conventional fertility questionnaire will be developed to fill in some of the necessary standard descriptive material concerning the deliberate control variables and the pre-conditions, such as family size preferences, knowledge of control methods, etc. The samples of about 300 women in each cooperative will be designed to represent significant social groups in the cooperatives identified during the first months of work.

The survey will include a number of sections from the World Fertility Core Questionnaire,^{2/} such as those on contraceptive knowledge and practice of "fertility planning", as well as schedules for deriving the Coombs size (and possibly sex) preferences scales (Coombs, 1973). The later topic not only is of direct interest in the study but answers a request by the IUSSP Sub-committee

^{2/} While measurement of the number of children ever born, of course, will be made, neither a pregnancy nor a birth history will be included since it would serve no purpose in such a small survey and would extend the time and costs of conducting the survey.

on Comparative Fertility Studies for tests of the scale in Latin America. Later in-depth interviews with a small selected subset of women in the survey sample by trained interviewers without knowledge of the women's survey statements will make it possible to analyze the validity of the survey responses, including the very important topic of whether the concepts being measured have meaning to the respondents, particularly among the large percentage with very low or no education. This should result in a very useful contribution to survey methodology.

As the survey will be primarily directed at providing descriptive information, only a limited number of pre-planned tabulations will be run and their analysis will be rapidly completed. A short working paper will be prepared primarily presenting the inter-cooperative differentials measured in the survey.

When the basic descriptive material on the cooperatives is collected and the survey completed and analyzed, it will be possible to plan out and begin to conduct the semi-structured interviews with the members of selected families. The researchers, who will do the depth interviews, will spend relatively long periods in the cooperatives to gain a better comprehension of the living circumstances there. The interviews, often involving various visits to a family, will be done a few at a time to permit their analysis and the reformulation of new working hypotheses on the basis of the work done. No doubt earlier interviews will lead to the need for reformulating the interview topics and for further clarification of the macro-level information and vice versa. Consequently, the reaching of understanding will be an inductive, interactive, process.

The Department of Social Sciences at the Catholic University has conducted research in the sugar cooperatives including in one of the two cooperatives proposed for study here (Catholic University, 1970). Although they have a training program in population, apparently they are not very involved in empirical population research; we shall try to bring them into the more anthropological aspects of the work and into more of the study if they are interested.

At the end of the fieldwork and its analysis, a final report will be written which draws upon the two earlier working papers and on the qualitative data from the indepth interviews. An attempt will be made to conclude with some conditional hypotheses on the relationships between social change and the pre-conditions for deliberate control as well as on the mechanisms that relate the macro-level changes to these fertility related variables. A separate short methodological report, possibly an appendix to the main report, will discuss the comparison between the survey and the qualitative indepth material.

IV. INSTITUTIONAL RELATIONSHIPS

1. Work of CEPD carried out at the request of the Cooperatives and Government

After the transfer of power to the workers on the plantations, one of the early measures taken by the socios has been to ascertain the demographic and social characteristics of their populations as a first step towards developing the main urban areas and later the smaller cooperative population centers. To this end, Bazán of CEPD, at the request of the Peruvian government (through SAF-CAP/SINAMOS), has been carrying out demographic studies and planning a system of Demographic and Social Statistics which will make an integral and uniform effort to collect, order, process and publish information for all fourteen sugar cooperatives. Arising out of these various related efforts demographic and social studies of the cooperatives of Casa Grande, Cartavio and Cayalti have already been completed (CEPD, 1974a, 1974b, 1974c).

It should be mentioned that as one of its on-going projects, CEPD with the technical help of CELADE, is completing preparative work for an experimental census in the Cooperatives of Casa Grande and Cartavio (a total of about 60,000 persons). The results and experience acquired at this stage of our activities will make possible a definitive model for the census operations which will be carried out within all fourteen cooperatives (a total population of about 350,000 persons) at a future time. This undertaking will provide, among other things, the frame of reference for the demographic and social statistical system.

2. Consultant Services from CELADE

As described in the previous subsection, CEPD has been involved in projects of immediate practical value to the cooperatives at their request since shortly after the formation of the cooperatives. As a result of this experience it was recognized that the process taking place on the formerly traditional haciendas provides an excellent opportunity to study the effect of structural and other change on demographic variables. It was felt that such a study could legitimately be done within the larger efforts requested by the cooperatives. After conversations with staff from the Fertility Sector of CELADE, who strongly supported the idea of a study in the area of family formation, CEPD requested that CELADE provide assistance in the development of a framework of relevant issues for this proposal, and in the carrying out of the work during the project. CELADE has promised its collaboration and has indicated that it is willing to send its members to provide assistance both in the Lima offices of CEPD and in the field work in the cooperatives.

APPENDIX A

Approximate Timing

| | <u>Ordinal month</u> |
|---|--------------------------|
| <u>PHASE I</u> | |
| a) Collection of initial macro-level descriptive information | 1-2 |
| b) Write working paper using descriptive information | 3 |
| c) Prepare limited purpose fertility survey | 2-3 |
| <u>PHASE II</u> | |
| a) Survey field work and coding | 4-6 |
| pretest | |
| interview training | |
| field work | |
| codification | |
| data cleaning | |
| b) Tabulation and analysis of survey data; write working paper | 7-8 |
| <u>PHASE III</u> | |
| a) Alternation between conducting depth interviews and their analysis | 9-15 |
| b) Collection of additional macro-level information | 9-15 |
| <u>PHASE IV</u> | |
| a) Analysis of all information gathered | 16-18 |
| b) Writing of final report | 16-18 |

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