CELADE
Latin American Demographic Centre

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INFORMATION ACTIVITIES

OF

THE LATIN AMERICAN DEMOGRAPHIC CENTRE

(ECLAC/CELADE)

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1. OBJECTIVES AND ORIENTATIONS

Activities as diverse as the modelling of the future transportation needs of a city, establishment of an education programme in a rural district, formulation of a national development plan, the operation of a maternal and child health clinic or the design of a marketing survey, all require the manipulation and use of population as well as other information. To this end, the Latin American Demographic Centre (CELADE), as the institution entrusted with the regional population programme of the Economic Commission for Latin America and the Caribbean (ECLAC), provides national institutions with the technical cooperation, training, services and technology required to utilize population information in planning, action programmes, teaching and research.

In the field of population information, CELADE is concerned primarily with information for professionals and decision makers and focuses on the storage, retrieval and processing of two general categories of information: (a) numerical data and (b) written materials such as books, articles, reports and other documentation 1/. Activities involving the second category are encompassed within the Latin American Population Documentation System, CELADE/DOCPAL.

While CELADE carries out a variety of activities in both areas of information, the present report focuses primarily on the work and implications associated with two key objectives which are directed toward fostering the integration of population factors into development planning and projects in the region. These objectives are to:

a) Make population information available to an extended audience in diverse fields, at national and local levels, working in governmental, academic and private-sector institutions, who should use appropriate population information, even though they may not be involved in population activities, per se (such as in housing or industrial planning);

b) Improve the ease with which population information can be utilized through appropriate information technology that decreases the dependence of planners, demographers and others on programmers and large computers.

1/ Presently, CELADE's information activities are not explicitly oriented to the general public. Note CELADE's publication programme is not treated here.

2. POPULATION DATA PROCESSING AND STORAGE

Although the processing of entire censuses and major surveys of the larger countries still requires trained programmers and mainframe computers, CELADE has shifted 2/ much of its attention to the development and use of microcomputer-based systems that are designed to give the user direct control over data retrieval and utilization and which are especially relevant to smaller and poorer countries.

2.1. Microcomputer-based software development and adaptation

CELADE has identified five areas for user-friendly microcomputer software development and/or adaptation:

- a) Geographically disaggregated data for planning (the REDATAM system);
- b) Economic-demographic models;
- c) Demographic analysis and projections;
- d) Processing of census (particularly the 1990 round) and survey data;
- e) Bibliographic storage and retrieval (described in Section 3 below).

The target microcomputers are IBM PC family or compatible machines, by far the most common in the region. Unless otherwise mentioned, the work is supported jointly by Canadian International Development Agency and UNFPA grants.

The REDATAM system for small area census data

The interactive user-friendly REDATAM System for "REtrieval of census DATa for small Areas by Microcomputer" is being developed, with funds from the International Development Research Centre (IDRC) and support from UNFPA, to assist physical and social service planning agencies, investment companies, and others concerned with the spatial location of population (Conning, 1985).

Microdata of the entire population and housing censuses of a country, large region or city are stored hierarchically in a database on a hard disk or on low-cost (now around US$70), pocket-size, 120 megabyte, write-once optical laser disks holding around 5 million census records each. CELADE will assist countries to create their census databases but the databases will normally be available only in the countries 3/.

2/ Between around 1975 and 1981 CELADE developed such mainframe systems such as CONCOR for data editing and an interface between SPSS and the Statistics Canada statistical database management system, RAPID.

3/ However, the CELADE Data Bank continues to acquire and make available microdata of samples of the 1960, 1970 and 1980 censuses (CELADE, 1986c).

Users can quickly select any areas of interest down to parts of city blocks if coded, or any area built up from smaller units, and rapidly produce tabulations from any original, recoded or derived variables, including those hierarchically calculated. Selected areas can be downloaded with the diction-ary information required for SPSS or SL-MICRO. A possible interface with a geographic information system to work with maps is being considered.

REDATAM is being operationally tested in the national statistical offices of St.Lucia (around 125,000 population using a 20mb disk) and Chile (around 11 million population and 4 million households compressed onto three laser disks). Demonstration copies of English and Spanish versions with their User Manuals (CELADE, 1986b) and sample database are now available.

Economic-demographic modelling software

CELADE is endeavouring to make economic-demographic models more widely available in the Latin American and Caribbean region by adapting them from their original mainframe environments to microcomputers and making them known through technical seminars and in-country workshops. At present, a micro-computer version of the Long Range Planning Model (LRPM2), originally designed by the US Bureau of the Census, is being developed to improve its user-friendliness. The package has eight interconnected modules for population and rural/urban projections, special sub-population projections (labour force, school age, equivalent health consumers, etc.), macro-economic projections and of government consumption and investment demand, including social service sectors and a module projecting the demand for family-planning services.

Demographic analysis and projection software

A Spanish language interactive "Microcomputer Demographic Analysis Package", PANDEM, and manual (CELADE 1985) were written for estimating fertil-ity and mortality by indirect methods. It has been distributed, on request, along with a microcomputer adaptation of the mainframe Population Division projection programme, to around 70 institutions. CELADE demographers are now examining the possible development of a small-area projection package.

2.2.Census and survey processing

Disconnecting the processing of survey data from mainframe computers and programmers is an extremely important means of increasing the ease of utilizing population data. QUANTUM, developed by CELADE for improving primary control over the input of data collected in a survey or census, and CHECKEDIT

developed for verifying and correcting the data, both of which use DBASE3, are presently being tested under difficult conditions in a Demographic Survey of 40,000 cases in Guyana. SPSS-PC will be used for obtaining results.

Given the efforts being devoted to increasing the long-term utilization of census data through REDATAM and the work done by other CELADE Divisions, particular attention is being placed on the 1990 round of censuses. Taking into account the experience gained in assisting the countries of the region with mainframe census data editing and elaboration (78 missions were conducted to 18 countries in preparing for or processing the 1980 round of censuses) and the accumulating knowledge of microcomputer hardware and software, CELADE will examine a wide variety of data processing technology over the next two years with a view to advising Governments on what is appropriate in each case in their 1990 censuses (see Silva, 1986 and CELADE, 1986b).

2.3. Training

CELADE conducted 2 regional and various national courses in 1984 and 1985 specifically oriented to the use of microcomputers. Although there is still a demand for such courses voiced by various country institutions, the emphasis on user-friendly, interactive, systems has now changed the nature of these courses from microcomputer courses, per se, to workshops on substantive topics using microcomputers as the working medium and taught primarily by population specialists and other non-programmers. Perhaps the only signif-icant future exceptions to this approach will be in preparing programmers for the large scale 1990 census round data editing and processing. It is expected that as audiences for population information become larger, more diverse, and more dispersed, alternate forms of "training at a distance" will have to be found, reserving more traditional training for population specialists.

3. POPULATION DOCUMENTATION (CELADE/DOCPAL)

The Latin American Population Documentation System (CELADE/DOCPAL) began its eleventh year in very different conditions from when it began. There is now increasing recognition by national institutions of the need to use the accumulating population literature, particularly that in the DOCPAL regional database, to improve the utilization of materials in their own libraries through the use of the standardized DOCPAL methodology and to apply new technology involving microcomputers. On the other hand, DOCPAL, which began

work in 1976 with 11 full-time staff members, now maintains its database of 25,000 documents, increasing by 1500 to 2000 documents per year, furnishes its regional services and selected technical assistance and training to the countries, while also providing library services to CELADE staff and students, with a full-time staff of 3 persons.

As a description of the database, services and other regular DOCPAL activities is given in the POPIN Bulletin (United Nations, 1982 and 1984), this report will concentrate on the approaches underway for taking advantage of the changing situation in the region to increase the audience and facilitate the utilization of population documentation in national institutions.

3.1.<u>Strategies to meet information needs during the next decade</u>

Since the inception of DOCPAL there has been an important increase in the number of national institutions in Latin America carrying out research and action in the field of population, usually working in other fields of well. Furthermore, while 10 years ago CELADE was almost alone in teaching demography at a university level, now there are various universities offering advanced degrees in population (see Rodríguez, 1985, for further information on institutional changes in the population field in Latin America).

Of particular importance to the work of DOCPAL, and CELADE in general, is the creation in 1986 of PROLAP (Latin American Population Activities Programme), a permanent association of around 50 of these research, action and academic institutions including CELADE and various of the 13 DOCPAL participating centres which use DOCPAL procedures and the POPIN Thesaurus. Indicative of the growing importance attached to population information in the region, PROLAP at its founding meeting identified "communication and documentation" as one of the three major areas of PROLAP activity, the other two being teaching and research, and CELADE was asked to provide specialized assistance to PROLAP in this area.

<u>Seminar on Population Information for Development</u>

CELADE has never held a major regional conference since the costs could not be justified by the expected long-term benefits. However, the creation of PROLAP and the expanded utilization of population documentation, coupled with the increasing availability of low cost technology for computerizing information storage and retrieval in national institutions, has now made holding a joint CELADE-PROLAP meeting not only desirable, but imperative, to try to ward

off the wasteful duplication of effort in the countries as they attempt to develop their own systems and inadvertently create a multiplicity of non-compatible small-scale population documentation systems.

The objectives of the joint CELADE-PROLAP seminar, tentatively scheduled 21-24 April 1987 in Santiago, are to:

a) Identify existing and future problems in the use of population information in four "utilization areas": teaching, research, development planning and action programmes;

b) Examine emerging information technologies (microcomputers, information storage and telecommunications) that may contribute to resolving the problems identified;

c) Propose strategies for the next decade and outline projects required in the four utilization areas, taking into account country conditions and the new technologies; and suggest projects for collaboration between CELADE and PROLAP that can be expanded to other institutions.

As the concern is with the use of population information, the participants will include demographers, social scientists, planners and others working in the four utilization areas as well as information specialists. To provide background, a short questionnaire has recently been sent to around 170 governmental, academic and private centers working in the field of population.

3.2. A microcomputer version for the DOCPAL/ECLAC Methdology

DOCPAL uses and promotes the usage in the region of the UNISIST-based Common ECLAC Documentation Methodology (ECLAC, 1984) for entering bibliographic information in computerized or manual systems (with the POPIN Thesaurus for indexing). Few national centers in the field of population need or could afford to automate using the mainframe ISIS system employed by DOCPAL and other ECLAC documentation systems. However, the wide-spread existence of microcomputers even in relatively poorly endowed institutions has now changed this situation and over the past year a number of institutions have attempted to create their own information software using commercial database packages. It may be possible to forestall this unfortunate situation by taking advantage of UNESCO's microcomputer version of CDS/ISIS, if an application is made rapidly to the ECLAC Common Methodology.

DOCPAL is now beginning work with other units of the ECLAC Common Bibliographic System on such an application of MicroISIS that will be as close to a "turnkey" system as possible, ready on receipt for data entry and the

production of standardized products when used with the common ECLAC metho-
dology worksheets. Alternative data entry "worksheets" will be available so
that one or two-person documentation centres can enter the minimum number of
fields even though they can receive downloads of complete DOCPAL records.

3.3. New services

When ECLAC/DOCPAL MicroISIS is ready toward the end of 1986, DOCPAL
will include its use during the in-service training normally provided to
around 4 to 6 persons per year, although, needless to say, other approaches
will have to be found if many of the 50 PROLAP centers are interested.

Once the MicroISIS adaptation to the ECLAC methodology is ready, one of
the first concerns will be with efficient downloading of records from the
CELADE/DOCPAL database and their uploading into the databases of national
centres. Thus when a Bolivian institution computerizes using the ECLAC adap-
tion, the centre will begin with the Bolivian population documents from the
DOCPAL database, increasing their access to their own literature and probably
saving cataloging and data entry of many of their own documents.

Since the possession of bibliographic information without access to the
documents, themselves, is usually insufficient (although the DOCPAL abstract
often has the information required), DOCPAL has always been ready to provide a
paper copy of any document requested in its database. To further facilitate
this service, particularly with the forthcoming possibility of downloading,
DOCPAL in 1985 began to microfiche selected documents for an exchange with the
computerized SEADE/DOCPOP system in Sao Paulo, Brazil, and now is continuing
to microfiche all the documents that have entered in recent years. The micro-
fiche are made available at the cost of reproduction.

To further increase the ease of using the DOCPAL database in the coun-
tries, DOCPAL is also completing the technical steps that will permit it to
produce the equivalent of a master catalogue on Computer Output Microfiche
(COM) of its entire database with the corresponding indices. The complete set
of COM for the database, only a small portion of which must be updated as new
materials enter the database, will be useful even to centres receiving DOCPAL
downloads since the COM set will be complete and have all the abstracts.

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