*CENTRO LATINOAMERICANO DE DEMOGRAFIA*

*Betty —*
*envionolo a*
*Nobhe y a*
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## POPULATION INFORMATION AND DEVELOPMENT IN LATIN AMERICA: SUGGESTED PROJECTS TO BE CARRIED OUT BY OR IN COLLABORATION WITH THE LATIN AMERICAN POPULATION INFORMATION AREA (INFOPAL) OF CELADE

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Most work in the field of population involves the utilization of population documentation, census, survey or other microdata, the computer processing of the data and the carrying out of calculations. The Latin American Population Information Area (INFOPAL) of CELADE assists the countries of the Region meet their needs with respect to population information by making available population data and documentation, related technical assistance and training, and information processing services. These various aspects of population information storage, retrieval and processing are integrated within the INFOPAL Area of CELADE, which, in turn, is treated as an inherent component of the substantive work of CELADE.

The INFOPAL Area is composed of three inter-related units:

I. The Latin American Population Documentation System (DOCPAL)
Created in 1976 with funds from IDRC, DOCPAL is endeavouring to obtain all books, articles, reports, and other documents on population, written in or about Latin America since 1970, and to make this more usable and available to the countries. Information on each document or part of a document is entered into a computerized database; by the end of 1978 there were about 7,000 documents in the database which is increasing by around 250-300 documents per month. To make the information more useable and available DOCPAL has three regional-level services: (a). an abstract journal, DOCPAL Resúmenes, appearing twice a year with about 700-750 documents per issue; (b). the production of specialized bibliographies on request via on-line computer searches of the database; (3). a document copy service for all documents in the system. Having developed population documentation skills in CELADE, the next phase of work is to transfer the DOCPAL technology (and international standards it follows) to the countries through technical assistance and training so that country institutions can better meet the documentation needs of their own staff and country users. The computer processing of the database and the production of the journal is carried out by the Population Information Processing Unit of INFOPAL.

II. <u>Population Information Processing</u>. This unit has computer programmers and system analysts who are specialists in processing population information. They assist CELADE users to process their data, provide technical assistance and training to the countries in data processing with particular emphasis placed on the use of investigator-oriented processing packages that do not require skilled programmers who usually are in short supply in Latin American government agencies. In addition, given the extensive experience of working with the countries on the processing of censuses and surveys, the Sector has been instrumental in developing new computer packages to meet the particular needs of the Latin American countries. They developed the data editing system, CONCOR, now widely used throughout the world and presently are working, using CIDA funds, with a Canadian expert to adapt Statistics Canada software to create a database census and survey processing system to be known as the DATOPAL system, which will be used in CELADE and provided to the countries. Through the system, it will be easier for planners to obtain the disagregated tabulations that they require and for researchers, themselves, to do complex manipulations and produce tabulations rapidly and at low cost, thereby, permitting more adequate indepth studies of population-development relationships in the Region.

III. <u>Population Data Bank</u>. This stores and makes available samples of the 1960 and 1970 censuses of almost all the Latin American countries and various demographic, fertility, migration, etc., surveys. Tapes of the micro-data are provided on request and the data is used to produce tabulations, etc., for CELADE and country users. When the DATOPAL database system is ready (see II above), frequently used datasets, presently stored linearly on tape and therefore costly to process, will be placed in database form to permit lower cost, more rapid, more convenient and more adequate use of the data in CELADE and in the countries.

INFOPAL AND THE POPULATION AND DEVELOPMENT ACTIVITIES OF CELADE

CELADE places great emphasis on the integration of population variables within planning in Latin America and on the indepth study of interrelationships relevant to planning and policy formulation and evaluation. INFOPAL is an integral part of this effort since it is endeavouring to provide the information and the information technology that the Latin American countries require to achieve these ends. For example, the use of DOCPAL helps/to base planners policy decisions on work already available and researchers to accumulate greater understanding rather than to duplicate previous work. The efforts of the Population Information Processing group to transfer user-oriented computer packages for census and survey processing to the countries has made them less dependent on high level programmers while permitting more specialized tabulations to be produced for indepth investigations. The DATOPAL system, when ready, will allow both planners and researcher to work with the geographical and social categories required by the problems under study rather than being dependent upon standardized tabulations made for other purposes. In addition, the DATOPAL system will permit the study of less well investigated topics of relevance in Latin America like indepth studies of families and contextual factors with census and survey data that previously could only be used for such purposes with great difficulty.

THE NEED FOR OUTSIDE FUNDS

Since the country institutions must be able to meet their own needs rather than depend on outside agencies like CELADE, INFOPAL places increasing emphasis on transferring the experience, skills and systems it has developed to the countries by technical assistance and training. However, since much of this type of activity is new and many of the efforts in the field of population information require large initial investments in manpower and equipment, CELADE is limited in what it can do within its United Nations budget. It requires additional funds to experiment and take risks to bring about greater population information storage, retrieval and processing capabilities in the countries. The following page lists a set of projects requiring outside funds. Each of these projects is then outlined briefly in the pages that follow.

CELADE POPULATION INFORMATION AREA

Titles of Suggested Projects[1]/ for Possible Funding by Agencies other
than the United Nations[2]/

(A short description of each is given on the following pages)

I. DOCPAL

1. Creating and funding Latin American Country Population Documentation Units
(DOCPAL Participating Centres).

2. Programming a "Portable" version of the IDRC Computer Information Retrieval
System, MINISIS, for use by CELADE and the countries on Mini-computers.

3. Microfiche distributions of selected documents in DOCPAL. (see also Project II.3).

4. Computerized photosetting of the DOCPAL Journal and other CELADE (and CEPAL)
publications.

5. Inclusion of selected documents from Population Index and PIDSA in the DOCPAL
Database.

6. Computerization of the non-DOCPAL documents entering the CELADE collection.

7. PDP11/61 Mini-computer for DOCPAL information storage, retrieval and processing
(and for CEPAL and ILPES), that can use the "Portable" computer program (see
Project I.2).

II. POPULATION INFORMATION PROCESSING

1. Facilitating the utilization of the DATOPAL Database census and Survey Proces-
sing System in the Latin American Region.

2. In-service Training of national programmers in CELADE to prepare them for
processing the 1980 censuses and technical assistance followup by CELADE.

3. Regional distribution of 1980 special census tabulations and the DOCPAL Indices
and Database information on computer output microfiches (see also Project I.3).

4. Production of Spanish Language Manuals for User-Oriented Statistical Data
Processing Packages

III. POPULATION DATA BANK (see also Information Processing)

1. Introduction of International Data Bank standards in CELADE and the Latin
American countries.

INFOPAL

Outlines of Suggested Projects Requiring
Possible Outside Funding

I. 1.  Title : Creating and Funding Latin American Country Population
              Documentation Units (DOCPAL Participating Centres)


Dates : 1981 - 1982


Objectives:

a) To insure that each country has a complete collection of the
population literature of its own country and has direct access to it.


b) To facilitate the access in the countries to the Latin American
and World population literature.

c) To provide funds to the country institutions, such as census
bureaus, population policy councils, and planning ministries, etc., to
create population documentation units (perhaps within more general docu-
mentation units) which will be linked with DOCPAL.

d) Facilitate the interchange of population documentation in the
Region by normalizing the procedures and indexing vocabulary used in
each country on the international standards employed by DOCPAL.

e) Installation of computer programs to use with the DOCPAL data-
base where the capacity to use the computer exists and is required.


Outputs :

a) DOCPAL Participating Centres (DPC),which will be devoted to, and
able to, meet the needs of their own and other institutions in their
country.

b) Country networks of institutions involved in population connect-
ing to the DOCPAL Participating Centre(s) in the country to insure that
all the population documents produced in the country are available in
the DPC.

c) Increased assurance that CELADE/DOCPAL is obtaining all the docu-
ments within its scope in order to make them available throughout the

Region and the rest of the world via DOCPAL regional-level services.


Inputs :

a) Funds for suitable country institutions to establish DOCPAL Participating units (the national institution will have to provide at least some counterpart funds and give assurance that the country will eventually provide permanent funding after the value of the work has been demonstrated). Normally the funds made available to the institutions would be for one to two years.

b) Training and technical assistance provided by CELADE international level documentalists (training materials will have been prepared during the 1979-1980 work program of DOCPAL).

c) Travel funds for the technical assistance (including, where desirable, for the installation of the computer information system used by DOCPAL).

d) Provision of the DOCPAL database to computerized DOCPAL Participating Centres.


Approximate Funds Required

a) Funds to be provided to national institutions at approximately US$ 40,000 per country (maximum US$ 320,000 6 to 8 countries).

b) Salaries of two international documentalists for two years (US$ 150,000).

c) Training courses in the countries and CELADE (US$ 80,000).

d) Travel funds for technical assistance and in-service training in CELADE (US$ 30,000).

I. 2.  Title : <u>Programming a "Portable Version of the IDRC Computer Information Retrieval System, MINISIS, for use by CELADE and the countries on Mini-computers</u>

<u>Date</u> : 1979 - 1980

<u>Objectives</u>:

a) "Translate" the IDRC minicomputer information retrieval system, known as MINISIS, into a commonly available computer language so that it is "portable", that is, able to be used on computers of different manufacturers (including mini-computers and IBM370 machines).

b) Reduce the long-run DOCPAL (and CEPAL) documentation system computer costs by processing eventually on a CEPAL minicomputer (PDP/11) and, in the intermediate run, operate more efficiently on an IBM/370 computer.

c) Provide the system to country institutions.

<u>Outputs</u> :

a) A "Portable" MINISIS system replacing the less efficient ISIS versions presently in use in CELADE and CEPAL (the new system might be programmed in an increasingly used language known as "C").

b) Increased storage and retrieval facilities available in CELADE (and CEPAL), because the IDRC MINISIS has many features, such as automatic inversion, not in the ISIS versions used in Santiago.

<u>Inputs</u> :

<u>Note</u> : The actual programming work would not be done in CELADE or by CELADE programmers since CELADE is only engaged in the production of software oriented specifically to population information processing - hence, although CELADE staff would assist the work, the major work

would probably be done by the CEPAL Computer Centre under the direction of their Centre's Head. This idea has been discussed with him but not with other pertinent authorities in CEPAL.

    a) Two experienced programmers for two years each

    b) Computer time

    c) Consultants from IDRC

Approximate Funds Required :

    a) Programmers (US$ 75,000)

    b) Computer time (?)

    c) Consultants (?)

I. 3.  <u>Title</u> : <u>Microfiche Distribution of Selected Documents in DOCPAL</u>

<u>Dates</u> : 1980 - 1982

<u>Objectives</u> :

To make widely used voluminous documents in CELADE/DOCPAL available (such as censuses, statistical compendiums, conference proceedings, etc.)

<u>Outputs</u> :

a) Microfiche of widely used voluminous DOCPAL documents.

b) Distribution to major users; provision of sets on request to other users.

<u>Inputs</u> :

a) Funds to produce the microfiches.

b) Funds to copy microfiches.

<u>Note</u> : No microfiche readers and reader/printers are included here, since they are listed under the Project on the "Distribution .... on Computer Output Microfiche"(I.3).

<u>Approximate Funds Required</u> :

a) Producing microfiche documents (present cost in Santiago is unknown; as a rough figure US$ 20,000)

b) Copying of microfiches (US$ 10,000)

I. 4.   Title : Computerized Phototypesetting of the DOCPAL Journal and Other

CELADE (and CEPAL) Publications


Date : 1979


Objectives :

a) To improve the readibility and appearance of the journal DOCPAL Resúmenes, and possibly reduce the number of pages without reducing the amount of information.

b) To improve the rapidity of production and improve appearance of other CELADE (and CEPAL) publications.


Inputs :

a) A phototypesetting machine capable of being connected via tele-communications with an IBM370 computer and with the PDP11/34 computer on order for CEPAL.

Note : The phototypesetting machine would probably be located in the CEPAL Computing Centre and under its supervision.  CELADE would be guaranteed at least its minimum estimated time on the machine.

b) Maintenance of the machine and supplies.


Approximate Funds Required :

a) Phototypesetting Machine (ideally two machines would be purchased so that a backup was always available even though they would both expect to be in use most of the time).
(Price unknown, but assume maximum of US$ 60,000).

b) Supplies (for CELADE)    (US$ 5,000).

I.5. Title: Inclusion of selected documents from "Population Index" and PIDSA[1]/

in the DOCPAL Database

Dates: 1980-1981

Objectives:

To make known and available in Latin America relevant population documents from the Regions.

Output:

a) Inclusion of information on selected documents form the Regions in the DOCPAL database;

b) Inclusion of a subset of these documents in the journal DOCPAL Resúmenes.

Inputs:

a) Systematic reception of compatible[2]/ database tapes from Population Index and PIDSA;

b) Development of programs and procedures to introduce the items on their tapes into the DOCPAL database;

c) Partial redesign of the journal DOCPAL Resúmenes to include the new material and an increase in its size or number of issues per year (now twice a year);

d) Copies of the documents would have to be obtained.

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1/ PIDSA = Population Information Documentation and Information System for Africa

2/ In July 1975, with IDRC funds, a meeting was held in Santiago in which DOCPAL, Population Index and the African system (PIDSA) discussed problems of achieving compatibility. Since all three systems will use ISIS and agreed on the basic information in the databases, it appears possible to achieve sufficient compatibility for tape exchange. Of course, DOCPAL will also provide tapes to Population Index and PIDSA.

Appropriate Funds Required:

       a) Costs of programming (including computer rental US$10,000)

       b) Additional costs to produce journal with an additional issue per year for two years (US$6,000)

       c) Travel to discuss compatibility matters with the other participating institutions (US$4,000)

I.6. Title: Computerization of the non-DOCPAL documents [1] entering
the CELADE collection

Dates: 1979-

Objectives:

a) To provide the same computerized facilities to CELADE and
external useŝ for retrieving information from the non-DOCPAL file
as from the DOCPAL file.

Output:

a) Computerized database with all non-DOCPAL scope documents
received after a given date (for example, after 1 January 1979);

b) Acquisition lists with indices for circulation to institutions
of Latin America.

Input:

a) Cataloguing documents already received since the start date;

b) Computer time to establish the initial database.

Appropriate Funds Required:   US$6,000

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[1] Books, articles, reports, etc. entering the CELADE collection but
which do not treat Latin American population topics or which treat
Latin American population but were published before 1970.

I.7. Title: PDP/11/61 Mini-computer for DOCPAL Information Storage and Retrieval Purposes (and for CEPAL and ILPES) that can use the "Portable" MINISIS Computer program

Objectives:

a) Lower the long-term DOCPAL processing costs (and similar costs in CEPAL );

b) Improve the efficiency of processing DOCPAL work;

c) To gain experience (to transfer to the countries) on mini-computers for information storage and retrieval;

d) To obtain a computer on which the proposed portable MINISIS could be used conveniently; 1/ (see Project I.2)

e) To have two similar computers so that one can serve as a backup;

f) Introduce computerized text editing in CELADE and CEPAL.

Output:

a) Long-term savings and improved efficiency

Inputs:

a) Funds for purchasing and installing the computer

b) Technical expertise in running a computer center

Note: The computer probably would be located in the CEPAL computing centre and would be under the supervision of the Head of the Computing Centre. CELADE would be guaranteed a minimum level of resources suitable for its needs.

c) Additional terminals for CELADE (2) possibly CEPAL would want additional terminals as well.

Appropriate Funds Required: US$60,000.

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1/ CEPAL has a PDP11 on order.    CELADE will have access to it.

II.1. Title: Facilitating the Utilization of the DATOPAL Database Census and Survey Processing System in the Latin American Region

Dates: 1980-1984

Objectives:

To enable country programmers and investigators to take advantage of the DATOPAL system for producing disaggregated tabulations required by planners and the specialized tabulations required for indepth studies of population-development relationships.

Output:

a) Installation and utilization of the DATOPAL system in country population institutions which have the computer and programmer capabilities required;

b) Utilization of the DATOPAL system in CELADE by country institutions not able to use the system directly

Inputs:

a) Technical assistance to install the DATOPAL system in selected countries;

b) Technical assistance to design the databases to be used with the DATOPAL system;

c) Training courses for national programmers;

d) Training courses for investigators working in population so that they learn to utilize the potentialities for data manipulation, etc., that the system offers and learn the language used to request output from DATOPAL.

Appropriate Funds Required:

a) Programmer to assist in technical assistance and training (US$50,000)

b) Travel funds for technical assistance and in-service training in CELADE (US$15,000)

c) Manuals in Spanish (translation and printing) (US$10,000).

II.2. <u>Title</u>:   In-Service Training of National Programmers in CELADE to Prepare
                      Them for Processing the 1980 Censuses and Technical Assistance
                      Followup by CELADE

<u>Dates</u>: 1979-1984

<u>Objectives</u>:

a) To enable national census bureau programmers in the countries less well prepared for processing their next census to use efficiently the appropriate software packages and procedures that do not require high level programming skills.

b) To provide and implement the software packages in the countries, when necessary.

<u>Output</u>:

a) At least two programmers per country from the national census bureau trained in census data processing prior to the census (approximately 10 countries);

b) Software packages available in the national census bureau fro processing the census and other data.

<u>Inputs</u>:

a) Provision of work-training in CELADE to two selected programmers per national census bureau at an appropriate time before beginning their actual census processing;

b) Computer funds to permit the trainees to work with real data, normally, the census sample of the last census from their own country.

c) Technical assistance missions of CELADE programmers     to insure that the program packages are properly installed and utilized in the countries.

<u>Appropriate Funds Required</u>:

a) Travel and perdiem for 3 person months per country for 10 countries (US$50,000)

b) Computer costs during training in CELADE (US$15,000)

c) Trained for technical assistance by CELADE programmers (US$7,500)

II. 3. Title : Regional distribution of 1980 special census Tabulations and
the DOCPAL Indices and Database Information on Computer Output
Microfiche 1/

Dates : 1980 - 1984

Objectives :

a) To make the special 1980 census tabulations that CELADE pro-
duces (which are not produced by the countries) , available widely in
Latin America and in easily storable and useable form.

b) To make other sets of standard tabulations (such as from the
World Fertility Survey) available.

c) To make the DOCPAL índices and the complete information on all
documents in the database available to country institutions which can-
not process DOCPAL tapes; provide periodic cummulative índices and up-
dates of the database information.

d) To facilitate the delivery of DOCPAL documents vía microfiche.
(see the Project titled: "Microfiche Distribution of selected documents
in DOCPAL").

Outputs :

a) Availability of standardized tabulations in key governmental
offices working in the field of population.

b) Availability of complete DOCPAL materials, regularly updated
in various country institutions working in Population.

c) Availability of microfiche readers (and, where necessary, prin-
ters) in country institutions for other purposes as well as those indi-
cated in this project.

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1/ The microfiches are produced directly by the computer without first
printing on paper. The present (Dec. 1978) cost in Santiago is US$10
per fiche containing 228        computer output pages, which is much
cheaper than printing on paper; the cost of copying a microfiche is
US$1.00, also vastly cheaper that photocopying 228 pages.

Inputs :

a) One micro-fiche reader/printer and one microfiche reader in CELADE.

b) Microfiche reader/printer for various Latinamerican census bureaus and for DOCPAL Participating centres.

c) Microfiche readers for other country centers.

d) Funds for copying the microfiche.

Approximate Funds Required :

a) Microfiche reader/printers and supplies (US$ 50,000) (including for CELADE and approximately 10 institutions).

b) Microfiche readers (one for CELADE and the others for country institutions)    (US$ 8,000).

c) Funds for copying and storing microfiche (US$ 10,000).

II. 4. Title : Production of Spanish Language Manuals for User-oriented
Statistical Data Processing Packages

Dates : 1979 - 1980

Objectives :

To provide investigators and programmers who are unable to read
English with user-oriented manuals of easily available processing
packages meeting Latin American needs (and which will be used in con-
junction with the DOCPAL database processing system).

Outputs :

a) User-oriented Spanish language Manual(s) explaining how to
use the package(s) in population survey processing (possibly SPSS for
surveys and CENTS-AID II for processing larger files; both will require
permission).

b) User-oriented Spanish (language) CONCOR Manual(s) for the IBM
Assembler and COBOL versions.

Inputs :

a) Programmer-writer to produce the manuals.

b) Printing of the manuals.

Approximate Funds Required : US$ 20,000

III.I. Title: Introduction of International Databank Standards in CELADE
and the Latin American Countries

Dates: 1979-80

Objectives:

a) To standardize the description of population datasets (micro-data of censuses and surveys, etc.) and to organize this information to permit countries to locate data more easily;

b) To normalize the organization of machine readable population files to permit more convenient processing;

c) To insure the participation of CELADE in international discussions to set standards.

Output:

a) Standardization of CELADE databank descriptions;

b) Spanish language manuals outlining the standards;

c) Provision of technical assistance and training to the countries setting up population databanks;

d) Inclusion in DOCPAL of the bibliographic type descriptions of population datasets in existence in Latin America.

Input:

a) Examination and adaptation of international standards presently under discussion;

b) Production of Manuals in Spanish setting out the standards and their use;

c) Provision of Technical Assistance and training in the countries;

d) Funds for consultants.

Appropriate Funds Required:

a) Consultant(s) (US$10,000)

b) Production and printing of manuals (US$10,000)

c) Participation in international discussions and visits to centers involved in defining standards (US$4,000)

d) Inclusion in DOCPAL of the information on available datasets (US$10,000)