

PROGRAM OF SUPPORT FOR THE 2002 NATIONAL POPULATION AND HOUSING CENSUS

(PR-0130)

EXECUTIVE SUMMARY

Borrower:	Republic of Paraguay	
Executing agency:	Statistics, Surveys, and Census Directorate (DGEEC) of the Technical Planning Secretariat, Office of the President of Paraguay	
Amount and source:	IDB (Ordinary Capital):	US\$ 9.2 million
	Local:	<u>US\$ 2.6 million</u>
	Total:	US\$11.8 million
Financial terms and conditions:	Amortization period:	20 years
	Implementation period:	3 years
	Grace period:	3-1/2 years
	Disbursement period:	3-1/2 years
	Interest rate:	variable
	Inspection and supervision:	1%
	Credit fee:	0.75%
	Currency:	Ordinary Capital currency pool
Objectives:	The program's objective is to assist the DGEEC in conducting the 2002 National Population and Housing Census (Census 2002), by financing human and physical resources and supplying funding to ensure that census work is conducted efficiently, to a high standard of quality, and on schedule. DGEEC's management and operational capacity also will be strengthened to equip it to perform its functions generally, and those pertaining to Census 2002 specifically.	
Description:	<p>The program would pursue the above-listed objectives by way of activities grouped into four components. The first three cover the successive stages of the census operation; the fourth involves institutional strengthening of the executing agency on the technical side.</p> <ol style="list-style-type: none"> Preparatory (pre-enumeration) stage (US\$5.5 million). This work to organize the national count takes in: (i) census planning and organization; (ii) passage of enabling legislation; (iii) setup of the National Census Commission; (iv) pre-enumeration work and updating of national census maps; 	

(v) trial census and definition of instruments; (vi) training; and (vii) publicity and public awareness-raising.

2. **Enumeration** (US\$3 million). This is the nationwide enumeration phase, consisting of the following activities: (i) developing an enumeration plan; (ii) synchronized mobilization of human resources and materials; and (iii) the field enumeration itself and handover of census forms.
3. **Post-enumeration stage** (processing, evaluation, release of results) (US\$765,000). The goal is to obtain basic statistical data that are current as of August 2002. Activities at this stage are: (i) editing and coding of questionnaires; (ii) processing of returns and creation of a database; (iii) census evaluation, to gauge data quality and coherence; (iv) population estimating and forecasting; and (v) release of census results. For the latter step, a plan will be devised for the delivery of data to government agencies, under agreements, along with special arrangements for private organizations, underpinned by a cost-recovery policy with differential pricing.
4. **DGEEC institution-strengthening** (US\$102,000). The aim is to better equip DGEEC technical staff for census-return analysis, by preparing studies on: (i) national, urban/rural, departmental, district, and labor force population forecasts; (ii) the indigenous population; (iii) women; (iv) electoral demographics; (v) fertility; (vi) mortality; (vii) business demographics; (viii) housing shortage; and (ix) feasibility of business censuses. Complementing these activities will be advisory support for the census's preparation and execution and for reviews of DGEEC's legal and institutional foundations

**The Bank's
country and
sector strategy:**

Priorities in the Bank's strategy for its activities with Paraguay are: (i) **development and modernization of the structure of production**, to make the economy more competitive and the nation a full partner in regional integration moves; (ii) **modernization of the State**, to heighten the State's role in spurring and regulating growth, develop institutional capacity, help it deliver essential services more efficiently, and enhance governance; (iii) **rural development**, to bring lasting improvements in the standard of living of rural dwellers; and (iv) **social sector reform**, to further human capital development. The proposed program is concordant with this strategy. Specifically, it will help equip the government with reliable, up-to-date statistical data on social, economic, and population indicators, to guide the decisions of government policy-makers and public-spending programmers and thereby help improve governance.

Data yielded by the program also will be of use in assessing economic and social development policies and programs, providing valuable input for strategies to combat poverty and improve social-service delivery and helping to pinpoint target areas for investment and those with growth prospects.

**Environmental
and social
review:**

The program was reviewed by the Committee on Environment and Social Impact, which concluded that the program will have no adverse environmental effects and will yield benefits on the social side. Pursuant to the committee's recommendations, the following elements have been built into the first component (preparatory/pre-enumeration work): (i) use of appropriate media to make certain that indigenous communities learn of the census and to elicit their participation (paragraph 2.13); (ii) arrangements to ensure that gender and ethnic issues are duly addressed (paragraphs 1.13 and 2.7); and (iii) questions addressed to the indigenous population as part of the census form design (paragraph 1.13).

Benefits:

The program would yield an array of benefits. Census data will be used for a variety of purposes by government and private-sector agencies both in Paraguay and internationally. The information will be valuable to those who shape and implement development policies, strategies, plans, and programs, to the ultimate benefit of all Paraguayans. The census is virtually the only source of statistical inquiry for smaller geographic areas such as departments and municipalities, since surveys are not statistically representative for those levels and administrative records refer only to services like health and education. A special benefit of Census 2002 for Paraguay's indigenous population will be a separate questionnaire to capture information on indigenous groups.

Risks:

To be successful, a census must be conducted simultaneously throughout the country at a selected moment in time. This requires strict adherence to a timetable: since each step is a prerequisite for the following one, any variance in the schedule can jeopardize the operation. Accordingly, the proposed Bank and government resources would have to be available when scheduled and, for management of the program's finances, decisions have to be made in advance on special procedures for the sometimes-urgent massive procurement and services contracting that will be called for (paragraphs 3.30, 3.31, 4.12).

Special contractual conditions:

- a. Conditions precedent to the first disbursement of Bank funds: (i) entry into force of the resolution establishing the Census Executing Unit (paragraph 3.8); (ii) setup of the Program Executing Unit (PEU) within the Census Directorate, including hiring and assignment of PEU personnel (paragraph 3.8); (iii) submittal of the annual work plan for year 1 of the operation (paragraph 3.22); and (iv) entry into force of the law fixing the date and rules and requirements for Census 2002 (paragraph 4.2).
- b. Special implementation condition: submittal, in the 60 days preceding the end of one implementation year, of the annual work plan for the following year (paragraph 3.22).

Poverty-targeting and social sector classification:

This operation does not qualify as a poverty targeted initiative as described in the indicative targets for Bank activities mandated in the Eighth Replenishment (document AB-1704). However, by virtue of the census data gathered and processed, the program will: (i) help pinpoint poverty zones and places with the heaviest demand or most acute shortfalls in public services of all kinds, including studies of indigenous populations; (ii) provide input for studies of ecologically fragile zones, in the form of data on existing residential units and their occupants; and (iii) provide data on the population's predominant economic activity and living conditions

Exceptions to Bank policy:

See the following section on procurement.

Procurement:

Goods will be purchased and consultants hired following Bank procedures. International publicity will be required in calls for bids for goods costing the equivalent of US\$250,000 and up and for consulting contracts over US\$200,000 equivalent. No financing for construction work is envisaged in the program (paragraph 3.29).

Given the nature of the operation, which will require mass contracting of non-specialized support services of all kinds that do not qualify as consulting services, with modest unit costs, a more expeditious selection and contracting system is being proposed to take these needs into account and at the same time ensure that basic principles of competition and transparency in Bank-funded contracting are observed (paragraph 3.30).

To expedite the program's execution and facilitate Country Office supervision work, a change in the procedure for reviewing the selection and hiring of census support workers is being recommended, to permit ex post reviews of contracts under US\$20,000 (paragraph 3.31).

I. FRAME OF REFERENCE

A. General background

- 1.1 Paraguay has conducted five National Population and Housing Censuses that lend themselves to technical comparisons, carried out in 1950, 1962, 1972, 1982, and 1992. The Statistics, Surveys, and Census Directorate (DGEEC) is now preparing for the upcoming 2002 census (Census 2002).
- 1.2 Census 2002 marks the first national Paraguayan count that will be part of a joint MERCOSUR census project. Argentina, Brazil, Paraguay, and Uruguay, along with Bolivia and Chile, have been working since 1997 on this joint undertaking, which in the short term will yield a database of standardized sociodemographic and economic data to help advance subregional integration efforts. A proposal has been developed to build common contents into census forms, with questions on structural variables having to do with population and housing, in order to facilitate socioeconomic diagnostic assessments and decision-making in the region. The importance of having censuses conducted as soon and as closely together as possible (between 2000 and 2005) was underscored by the presidents of MERCOSUR nations in the Act signed at the Asunción summit on 15 June 1999.¹
- 1.3 Paraguay itself has been at work since 1998 on preparatory activities for Census 2002, specifically: (i) issuance of Decree 281 of 2 September 1998 that authorizes DGEEC to start work on the upcoming Population and Housing Census; (ii) appointment of DGEEC's Census 2002 technical team; (iii) preparation of a Census 2002 preliminary budget estimate, which was forwarded to the Ministry of Finance; (iv) participation in workshops to discuss the MERCOSUR joint census project, looking at methodologies, concepts, processing technologies, nomenclature, data dissemination, and other issues; (v) a preliminary master plan for the census exercise; (vi) a first draft of enumeration materials, including questionnaires and manuals; (vii) a first census pilot trial administered in the Roberto L. Pettit district of Asunción; (viii) startup of scheduling for map updating work; and (ix) a returns-processing test using scanners and automatic mark-recognition software, with support from Instituto Brasileiro de Geografia e Estatística (IBGE).
- 1.4 The Government of Paraguay has requested Bank assistance in order to move forward on the Census 2002 pre-enumeration activities. Bank support would make up the funding shortfall for this priority activity in the country, help meet the challenges of the MERCOSUR joint census project, and strengthen the agency in charge of national statistics services. Though every step in the process is important, three are pivotal: updating of maps nationwide, census trials, and preparing

¹ Item 8 of the Act reads: "[They] likewise pledged to conduct a National Population and Housing Census within the timeframe 2000 to 2005, to yield uniform, comparable statistics, this being essential to further the economic, political, and social integration of their peoples. The Census will be an invaluable tool for economic and social development planning and management."

enumeration materials (forms, manuals). All these elements are crucial for a successful national count, and all take a considerable time to produce.

B. The census in the National Statistics System

- 1.5 National censuses of population and housing and of business and agricultural establishments, along with sample surveys and administrative records, are the cornerstone of a nation's statistics system. The housing and population census is the prime source of basic statistics and the largest, most complex, and costliest information-gathering exercise on which a country can embark. It requires a mass mobilization of people, materials, and funds to gather, process, and publish population, economic, and social data covering all a country's or region's inhabitants at a selected moment or over a selected interval.
- 1.6 Essential features of population and housing censuses are: (a) **universality**: a census must take in a country's entire territory and every person who, at the time of the census, lives in a single-family dwelling or multi-household building or group living quarters, plus people with no usual residence and the nomadic population; (b) **individual enumeration**: census-takers must separately record the features of each unit of inquiry, i.e., each residential building, each household in a building, and every household member, so census returns can be processed and data aggregated into the classifications required by different census data users. Respondent-specific information gleaned in a census is confidential when gathered: it may not be used for tax or legal-system purposes, as per the secrecy requirements on census data set out in the international convention on censuses; (c) **simultaneity**: a census must be conducted nationwide on the same day or in as tight a timeframe as possible, to avoid duplicate counting and omissions, especially of people whose business requires them to travel within the country or abroad; and (d) **defined periodicity**: censuses should be conducted at regular intervals, ideally every 10 years, to yield comparable data in a fixed sequence. Census series are tools for assessing the past, accurately depicting the present, and predicting the future.
- 1.7 As was mentioned earlier, population censuses tie in closely with other sources of statistical information such as administrative records and household surveys (§1.5). The census provides a sampling frame for the Comprehensive Household Surveys that the country has been conducting under the Program for Improvement of Surveys and Measurement of Living Standards in Latin America and the Caribbean (MECOVI), which the Bank is supporting.² Though each of these sources has its own specific purpose, they complement one another: the census provides a general sociodemographic frame for the entire population at a moment in time; administrative records are used to track trends in the use and accessibility of

² Nonreimbursable technical-cooperation agreement ATN/SFS-5244-RG between the IDB and the Republic of Paraguay, signed on 27 June 1996. The 2000/2001 Comprehensive Household Survey launched on 28 August 2000 will take in 8,960 housing units—the largest such exercise the country has ever conducted.

government services; and household survey findings are inputs into more thorough socioeconomic and population studies done during intercensal intervals. Another important feature of censuses is that they are the main source of data for social and economic programming for small geographic areas and localities, since they gather information from households across the country.

- 1.8 Census data are a tool for public policy makers and program administrators in such fields as education, health care, employment, family planning, housing, household services, urban and rural development, and transportation and road system planning. Census findings also are vital raw material for programs that decide how funds will be shared among different subnational entities. In Bolivia and Paraguay, for instance, the tax revenue-sharing pool is distributed in direct proportion to population size; in Brazil, allotments are inversely proportional to per capita household income. In Paraguay this information will also assist in the decentralization process that was given priority in the 1992 constitutional reform and in the government's agenda for 1999-2003. Hence, the information yielded by census returns is a necessary adjunct to the set of indicators used to measure living standards and describe the employment status of the economically active population.

C. The Paraguayan statistics agency

- 1.9 Under the terms of Decree-Law 11,126 of 20 February 1942, the Statistics, Surveys, and Census Directorate (DGEEC) in the Technical Planning Secretariat (STP)³ is in charge of organizing, coordinating, and overseeing the technical side of Paraguay's national statistical services. Its specific functions pursuant to that law are: (i) organize and coordinate the country's statistics services and censuses; (ii) oversee the technical elements of statistics work, whatever its form or end-purpose; (iii) produce specialized statistics; (iv) be involved in all matters pertaining to official statistics, be they international, national, or municipal; and (v) levy financial penalties as authorized by law.
- 1.10 Two agencies—DGEEC and the Central Bank of Paraguay—are in charge of virtually all government statistics compiling and management in Paraguay. DGEEC's principal task is to conduct population and housing censuses. It also produces social and employment statistics from housing surveys. The Central Bank puts out statistics on: (i) monetary and financial indicators; (ii) foreign trade and balance of payments; (iii) consumer price indexes; (iv) short-term indicators in the goods and services markets; and (v) the national accounts.
- 1.11 To address the situation of out-of-date laws that have not kept up with advances in statistics or data gathering, processing, and analysis methods and techniques or the

³ Law 49 of 27 December 1989 transferred what was then the Statistics and Census Directorate (at the time part of the Finance Ministry) to the STP.

institutional apparatuses in operation outside and within Latin America, notably in MERCOSUR, the government proposes to organize a National Statistics System (SEN) and put the National Statistics Bureau (INE) in charge of it. A bill to that end is currently before the Paraguayan Congress and is expected to pass shortly. The idea is to build a sound legal and institutional framework, strengthen organizational development, adopt human resources policies to assure that agencies have enough qualified staff, provide infrastructure and equipment for their work, and draw up output plans and programs tailored to the demand.

D. Lessons learned from censuses⁴

- 1.12 **Census-form content and design.** A country conducts a population and housing census to put together basic information on population features and the economic and social situation of every resident of the country at a selected moment in time. Census data are essential inputs for a nation's development policies, plans, and programs and for tracking what those instruments achieve. Consequently, the thematic content and categories of inquiry on a census form are designed to tell a country what its development strategies are accomplishing. Table 1 shows how census questions tie in to some of the Paraguayan government's development strategy priorities. Information from Census 2002 returns will help ascertain how well the strategy is working. Lessons learned in this regard suggest that a census form should elicit the basic data needed to provide an accurate snapshot of a country's population and their socioeconomic condition, but that its design should be as simple as possible, so there will be no problems when it is completed in the field.

⁴ From observations on Bank-funded projects and observations from the Latin American and Caribbean Demographic Center (CELADE) of the Economic Commission for Latin America and the Caribbean (ECLAC), the specialized regional agency.

Table 1 Tie-in between population and housing census subjects of inquiry and development strategy priorities and information requirements	
Census subject of inquiry	Development strategy priorities and information requirements
<ul style="list-style-type: none"> • Housing: quality, basic utilities, setting • Household facilities 	<ul style="list-style-type: none"> • Access to decent housing • Satisfaction of basic needs • Poverty alleviation • Increase in real income
<ul style="list-style-type: none"> • Population and profile (age, sex, marital status) 	<ul style="list-style-type: none"> • Political representation, allotment of regional and local resources • Identification of vulnerable groups (children, youth, seniors, women) • Quantify sectoral demands
<ul style="list-style-type: none"> • Ethnic origin, with specifics 	<ul style="list-style-type: none"> • Special programs for indigenous population
<ul style="list-style-type: none"> • Educational attainment and economic situation of the population 	<ul style="list-style-type: none"> • Development with equity • Competitiveness and productivity
<ul style="list-style-type: none"> • Fertility and child mortality 	<ul style="list-style-type: none"> • Improving the status of women • Maternal and child health

- 1.13 To satisfy requirements of the MERCOSUR joint census exercise, the plan is to word census questionnaires so as to: (i) record specific features of the indigenous population by way of a special questionnaire outlined in Table 2; (ii) identify vulnerable groups such as children, women, seniors, and persons with disabilities and record their features; (iii) enhance the quality of fertility and child mortality data; and (iv) yield employment/underemployment data for a period of reference that will be compatible for purposes of defining who is "unemployed" and quantifying numbers of unemployed in MERCOSUR.

Table 2. Special questionnaire for indigenous communities

- Cultural features by ethnic group
- Special features of housing and household services
- Economic activity of household and individuals
- Education; language learned and spoken
- Legal and social features of the community

- 1.14 **Cost and data quality.** The main challenge for any census is to obtain the best-quality data possible in the most cost-efficient manner possible. Table 3 provides an indicative comparison, from CELADE/ECLAC estimates, of the per capita cost to the treasury of censuses in selected countries in the region, including the recent U.S. count. The estimated per capita cost of Paraguay's Census 2002 stands at the average for other Bank-supported programs, not counting Suriname. This has to do with efficient and timely execution of a series of interrelated tasks that go into a census exercise. Lessons learned on this front suggest that a key to a successful census is the management and strategic organization stage, which in the end will make for good-quality data and efficient census operation, keep costs down, and

avoid duplication of effort. Though censuses are held at discrete intervals, they should be looked at as part of a country's ongoing statistical effort. They are at once an integral part of the corpus of sociodemographic statistics and the vehicle for integrating those statistics. From that standpoint, the cost of a census should not be viewed as ascribable to one specific year or as an outlay to produce one specific output. The census exercise serves as a framework for, and feeds information into, the nation's entire statistical apparatus.

Table 3. Cost to the treasury of a census in selected countries in the region

Country	Per capita cost (US\$)
Argentina	3
Bolivia	1.2
Ecuador	1.2
Paraguay	2
Suriname	12
United States	20

Source: CELADE/ECLAC

- 1.15 **Enumerator training strategy.** Experience suggests that, once a decision is made on who will be doing the field enumeration,⁵ the training strategy should tailor training to the different kinds of teams. For instance, teams of high school students may be more motivated, energetic, and detail-oriented, but they need longer training and closer supervision during enumeration so they will have credibility with respondents. Another recommendation is that great emphasis be laid on the valuable role that these census-takers play, so their commitment and work will be recognized by their communities. A final recommendation is that the content of the instructor's manual be as simple as possible, to serve as a practical guide for enumerators in general and at critical points in an interview. Instructions for each question should be short; the whole manual should run 10 pages at most.⁶
- 1.16 **Field work.** For a census to be successful, a series of requirements have to be satisfied at the scheduled time and to the requisite standard of quality: (i) census maps that precisely demarcate enumeration areas, to avoid duplicate counts and omissions; (ii) pilot tests and sampling design, to correct flaws in the enumeration tools (questionnaires, manuals, maps) and census procedures; (iii) recruitment of suitable field personnel and training for enumerators and supervisors; ideally these should be motivated volunteers who have the skills needed for enumeration work; (iv) a campaign to inform the general public of the upcoming census and explain its purpose and usefulness, so people will be motivated to take part; and (v) effective supervision arrangements, which entails: making sure that every enumerator starts canvassing at the spot indicated on the map and thoroughly understands the census form and instructions; periodically accompanying each enumerator to find out what

⁵ In Paraguay and other countries in which enumerators are not paid and there thus is no budget line for this work, primary and high school teachers, government employees, and senior high school students are recruited as canvassers.

⁶ In the past some manuals have been over 90 pages long. The end product—an unwieldy tome that was impractical in interview situations—did not justify its high cost and the work that went into it. Moreover, when manuals are that long, census-takers are unlikely to read them all the way through.

difficulties are coming up; being locatable if enumerators have questions (without the enumerator having to interrupt interviews); making sure that every enumerator has annotated his or her maps as instructed; and completion of route sheets, with careful address records.

E. The Bank's strategy and rationale for its involvement

1. The Bank's country strategy

- 1.17 In line with the government's priorities, the Bank's strategy for Paraguay is to support efforts in the following strategic areas: (i) **development and modernization of the production apparatus**, to make the economy more competitive and the nation a full partner in regional integration moves; (ii) **modernization of the State**, to heighten the State's role in spurring and regulating growth, build institutional capacity, help it deliver essential services more efficiently, and enhance governance; (iii) **rural development**, to bring lasting improvements in the standard of living of rural dwellers; and (iv) **social sector reform**, to further human capital development. The proposed program is concordant with this strategy. Specifically, it will help equip the government with reliable, up-to-date statistical data on social, economic, and population indicators, to guide the decisions of government policy-makers and public-spending programmers, and thereby help enhance governance.
- 1.18 Data coming out of the program described here also will be of use in assessing economic and social development policies and programs, providing valuable input for strategies to combat poverty and improve social-service delivery, and helping to pinpoint target areas for investment and those with growth prospects.

2. Bank experience

- 1.19 The Bank has supported a number of population and housing census operations elsewhere in the region in recent years. In 1995 it supplied nonreimbursable technical-cooperation funding for Nicaragua's national population and housing census (ATN/TF-4376). It approved its first loan for preparation and operation of a national census in November 1999 for Bolivia, for US\$7.4 million (1056/SF). A technical-cooperation project approved for Suriname (ATN/SF-6859) helped that country prepare its 2000 census. The Bank also has provided technical support for data processing, creation of microdatabases, digital mapping, and a geographic information system, for population data inputs into social investment programs, through an IDB/CELADE regional technical cooperation program (ATN/TF-4098-RG and ATN/TF-5827-RG). The IDB/CELADE program also assisted in the analysis of returns of Paraguay's 1992 census and from 1993 censuses in Peru and Guatemala. The Bank's experience in these operations has been very positive. Particularly noteworthy are the timeliness and relevance of the data and studies that have come out of these censuses and the cooperation furnished, in countries and programs that are high-priority for the Bank.

- 1.20 In Paraguay, the Bank has helped strengthen the National Statistics System. By way of nonreimbursable technical-cooperation operation ATN/SF-5469 it assisted in the setup of the System of National Accounts. A regional program now under way to improve surveys and measurements of living standards (MECOVI) (ATN/SF-5244-RG) will make for better and more useful household surveys; institution-strengthening initiatives in this regard will mean better designed public social policies, particularly for rural areas. At the moment the Bank is processing a technical-cooperation operation to help improve Paraguay's economic and financial statistics, the aim being to build expertise for analyses of the country's monetary, financial, and fiscal statistics and make for more timely release of such data. All these efforts are part of a Bank program to help strengthen the Paraguayan statistics system.
- 1.21 The following operations in the Bank's 2000-2001 lending program address this sector: support for Argentina's 2001 National Population, Household, and Housing Census and System of Economic Accounts and Statistics (AR-0261); strengthening of Ecuador's National Statistics System (EC-0197); strengthening of Peru's National Statistics System (PE-0207), and support for Suriname to prepare Census 2001 (SU-0025).
- 1.22 In designing the program described here to support implementation of Paraguay's National Population and Housing Census, lessons learned from Bank experiences in similar programs elsewhere in the region were taken into account, as were experiences of the specialized regional agency in this field. Section D of this chapter summarized and commented on those lessons.

II. THE PROGRAM

A. Objectives

- 2.1 The program's objective is to assist the Statistics, Surveys, and Census Directorate (DGEEC) in conducting Paraguay's 2002 National Population and Housing Census (Census 2002), by financing human and physical resources and supplying funding to ensure that census work is performed efficiently, to a high standard of quality, and on schedule. DGEEC's management and operational capacity also will be strengthened to equip it to perform its functions generally, and those pertaining to Census 2002 specifically.
- 2.2 The program is expected to supply Paraguay with up-to-date, basic population, economic, social, and ethnic statistical data, harmonized with regional statistics, for the country's entire population. Specifically, census-return data will be used to:
 - a. Understand the demographic features and spatial distribution of the population and migratory flows, with specifics on indigenous communities.
 - b. Ascertain Paraguayans' educational attainment and employment status.
 - c. Gain a picture, in quantity and quality terms, of Paraguayans' housing conditions and household services.
 - d. Construct poverty and living-standards indicators and identify vulnerable groups, with particular attention to living conditions of the indigenous population.
 - e. Update the country's statistical maps, as inputs for future specialized inquiry exercises using sampling surveys.
 - f. Develop a geographic information system to associate attributes queried in the census to geographic attributes of populated regions.
 - g. Produce national, departmental, and district population forecasts and forecasts by urban and rural area.
 - h. Perform economic and social research to come up with findings of use for public policy development.
- 2.3 The program's Logical Framework and targets are presented in Annex II-1 to this proposal.

B. Description

- 2.4 The program would pursue the above-listed objectives by way of activities grouped into four components. The first three cover the successive stages of the census operation;⁷ the fourth involves institutional strengthening of the executing agency on the technical side.

1. Preparatory (pre-enumeration) phase (US\$5.53 million)

- 2.5 This phase to organize the national count includes planning and executive tasks that will continue throughout the entire operation. Specific activities are as follows:

a. Planning and organization (US\$917,580)

- 2.6 This component consists of work to devise a strategy for Census 2002 and establish legal, technical, financial, and organizational bases to ensure that the census proceeds as planned and is duly coordinated and supervised. Activities required are: (i) preparation of the census plan; (ii) passage of enabling legislation; (iii) setup of the National Census Commission as an advisory and support body; (iv) administrative and financial programming; and (v) general supervision and coordination of every stage in the census operation.
- 2.7 The census will require overtime work by DGEEC permanent staff, particularly department heads involved in the census program, for at least 35 months spread over 2001, 2002, and 2003. The cost has been calculated at four hours a day at an average rate of US\$6/hour; the exact rate would vary depending on the function. Consultants would be engaged to advise on census planning, organization of the indigenous-population census, design and publications, and human resources management. A building would be rented for storage of census materials, segmentation, and editing/coding of questionnaires. Funds also are budgeted in this component for basic equipment (computers, printers, photocopiers, furniture and fixtures).

b. Pre-enumeration work and map updating (US\$2,002,440)

- 2.8 One core pre-enumeration activity is a listing of housing units nationwide and, in urban areas, a preliminary population count. Maps updated from this information are used to prepare and conduct the population and housing census as well as censuses of business and agricultural establishments (since all buildings and their use are included). The digital maps thereby produced are invaluable for census data products and users, since thematic maps can be overlaid. The following are activities in this component: (i) digitizing and printing of plans and maps;

⁷ The four major stages are not necessarily chronological, since some components will overlap. Generally, however, they mirror the successive stages in a census.

(ii) before the enumeration, a survey of buildings to record their use (residential, industrial, commercial); (iii) before the census, a population count in large cities; (iv) from the aforementioned data, updating of national census maps to input current, georeferenced data on the population, physical resources in the territory, and health and education infrastructure; and (v) segmentation of enumeration areas and tracts, to organize human and material resources allocations.

- 2.9 This component will fund technical advisory support relating to the geographic information system (GIS), field workers (departmental chiefs, assistants, updaters, drivers, pre-census workers), per diems and expenses for field personnel and digitizing work and an international consultant on automatic segmentation. Also budgeted in the program are overtime for GIS technicians and a records manager, miscellaneous supplies and materials, and vehicle purchases for the field work.

c. Census trial runs and definition of instruments (US\$1,752,830)

- 2.10 The object of this set of activities to prepare for the enumeration is to devise data gathering methods and procedures and produce documents in line with the chosen approaches. The core activities are: (i) pilot trials, thematic tests and dress rehearsals at various points in the country, to test the draft census form and procedures; (ii) final designs of the census form, including a special questionnaire for the indigenous population; and (iii) preparation of final versions of other census resources, such as enumerator and supervisor manuals, final training plans, enumeration checks, and the data capture system.
- 2.11 Consultants hired for this component would work out conceptual aspects of the census, help decide on subjects of inquiry and questionnaire content, and analyze returns from the test censuses. Funds are budgeted for office and field personnel for these trial runs (data entry, enumerators, supervisors, district chiefs, checkers). The principal item slated for financing is the printing of census forms to cover every household in the country during the census proper, and instruction manuals and other resource materials.

d. Training (US\$128,600)

- 2.12 Personnel recruitment and training are critical stages in the census process, since in large measure they determine the census's coverage and the quality of information elicited. Planned activities are: (i) setup of the training apparatus; (ii) training of trainers; (iii) training for management posts, and (iv) enumerator training. The program would fund consulting services to help design the training plan and apparatus, coordinate this component, and assistants and trainers.

e. Publicity and public awareness-raising (US\$737,000)

- 2.13 To secure the public's cooperation, motivate people to be counted, and prepare them for the enumerator's visit, the census needs to be well publicized, stressing its

objectives and the importance of everyone's participation. The following activities are planned: (i) design of advertising and awareness-raising strategies to blanket the entire population, including information for indigenous groups in their own language; (ii) production of material for media campaigns; and (iii) operation of the campaigns. Funds in this component will pay for the component's coordinator, an international consultant on census advertising, and a media firm.

2. Enumeration stage (US\$3.05 million)

- 2.14 This is the stage at which census-takers will gather data throughout the country. The planned activities are: (i) preparation of the enumeration plan, to map out the field work and make sure that every facet and phase is done on schedule; (ii) synchronized mobilization of personnel and materials to make sure that all teams are ready to start work; and (iii) canvassing and delivery of census forms, to have information for all enumeration areas to which teams are assigned and track the flow of census material to make sure that the information recorded will be accurate.
- 2.15 Funds are budgeted in this component for field personnel for the data collection process (coordinators, departmental and district chiefs, assistants, supervisors, drivers); per diems and expenses of those individuals and of the enumerators (46,000 in towns and cities, 13,150 in rural areas); and supplies and furnishings for field and desk work for the enumeration.

3. Post-enumeration stage: processing of returns, evaluation, and release of data (US\$765,000)

- 2.16 This stage will yield basic statistics, current as of August 2002, on population features and the economic and social situation of all Paraguayans. Specific activities are as follows.

a. Processing of returns (US\$430,560)

- 2.17 This component covers the capture on magnetic media of census results for each residential dwelling, household, and individual, computerized data processing to yield tabulations, and technical resources for subsequent processes. It consists of the following activities: (i) census questionnaire editing and coding; (ii) intake of census returns and formation of work lots to capture data on magnetic media; (iii) manual inputting of census-returns onto those media;⁸ (iv) checking the quality of data capture by reentering questionnaires; (v) running of data validation and

⁸ It has not yet been decided whether to capture census-return data electronically: the choice is between the traditional manual inputting method and modern imaging technology whereby data can be scanned. Manual inputting has been assumed for purposes of this proposal. In any event, there would not be a great difference in cost. The imaging approach would likely cost less but would be more demanding in terms of quality of materials (paper on which the census form is printed; training in completing the form, etc.).

consistency programs to pick up and correct errors and inconsistencies, along with imputation programs for questions left blank; and (vi) running of pre-defined tabulations for release in print and electronic media.

- 2.18 Consultants paid for by the program will provide technical advisory support for defining the data capture procedure and monitoring the entire process, general support and services (systems analyst, programmer, file, coding, and inputting editors, supervisors, and checkers), supplies and materials.

b. Census evaluation and revised population estimates (US\$20,000)

- 2.19 The primary purpose of evaluating the census is to ascertain the omission rate and examine the quality of data gathered for selected variables. This requires the following activities: (i) consistency analysis of census results and how they match up with other data sources (previous censuses, vital statistics records, household surveys, 2001 census trials); and (ii) estimates of population missed in Census 2002 and running of corrected population estimates. Consultants needed for this work will be hired under the program.

c. Release of census data (US\$314,440)

- 2.20 The object of this component is to make census findings available to government agencies and the private sector, including the Bank, and to Paraguayans and others interested in the country's basic statistics. This means devising a plan for release of data to government agencies, under agreements, and to the private sector by way of special arrangements, with differential pricing under a cost-recovery policy.
- 2.21 The following are the component's activities: (i) preparation of a dissemination plan that specifies, for each data product or product series, thematic contents, geographic scope, format (support), and timing of release; the preferred media will be computer-based—diskettes, CDs, and Web pages; (ii) preparation of census data products; (iii) release of products and product series: DGEEC will develop a policy for publicizing general census findings via free pamphlets and the Internet, and sales of publications and magnetic media with highly disaggregated data; special arrangements will be worked out for data delivery to government information agencies (by way of agreements) and to the private sector (differential pricing);⁹ (iv) transfer of census data onto magnetic media, with user-friendly systems for handling data for smaller administrative and geographic areas (community organizations, indigenous communities, municipalities, blocks, etc.); and (v) using the geographic information system developed by DGEEC, association of the map database with the census file to produce thematic maps and atlases with sociodemographic indicators.

⁹ The Bank will have access to the census data in conformity with secrecy requirements in Paraguay's statistical legislation and its access-to-information policies.

- 2.22 Consultants would be hired to advise on the database's setup and interface with the GIS. The program also would fund print and electronic publications; this would require consultants and general support services (researchers, designer, layout staff, supplies and materials). Consultants also would be engaged to develop a cost recovery policy.

4. DGEEC institution-strengthening (US\$102,000)

- 2.23 The aim is to build managerial and operational capacity in the Statistics, Surveys, and Census Directorate (DGEEC) to improve its workings generally and for Census 2002 tasks specifically. The advisory support planned for the program overall, during the census's preparation and operation, will contribute to this process. A series of initiatives in parallel with the program will be helping to attain that same objective, including a review of the legal and institutional framework¹⁰ and the institutional reorganization of technical and administrative cadres with technical assistance from GTZ, the German government cooperation agency. A number of studies will be produced in the proposed program to that end, to train staff in census-return analysis: (i) national, urban/rural, departmental, and district population forecasting and labor force forecasts; (ii) indigenous population; (iii) women in development; (iv) electoral demographics; (v) fertility; (vi) mortality; (vii) business demographics; (viii) housing shortage; and (ix) feasibility of business censuses, in light of the population census. To support these activities the program will pay for consultants for each study.

5. Management and administration (US\$164,520)

- 2.24 Funds budgeted for the program's management and administration are for consultants and purchases of essential equipment to set up a Program Executing Unit (PEU) within DGEEC.
- 2.25 Specifically, funds in this category would pay for the PEU team made up of: (i) the Chief of the Census Department, who will be director of the PEU; (ii) a technical assistant; (iii) an administrative and accounting assistant, and (iv) a procurement assistant, all of them to be hired in accordance with terms of reference and job descriptions agreed upon with the Bank. The PEU team costs would be defrayed out of the Bank's loan.

C. Cost and financing

- 2.26 The estimated total cost of the proposed operation is US\$11.8 million. The Bank would fund the equivalent of US\$9.2 million (78%) from its Ordinary Capital. The Government of Paraguay would furnish the balance, equivalent to US\$2.6 million

¹⁰ A bill proposing the creation of a National Statistics System (SEN) and National Statistics Bureau (INE).

(22%). The budget includes consulting services, general support, materials and supplies, and equipment required to develop and execute the operation.

- 2.27 The following table presents the program's consolidated budget broken down by item of expenditure and component. The itemized budget by component is in the program technical files.

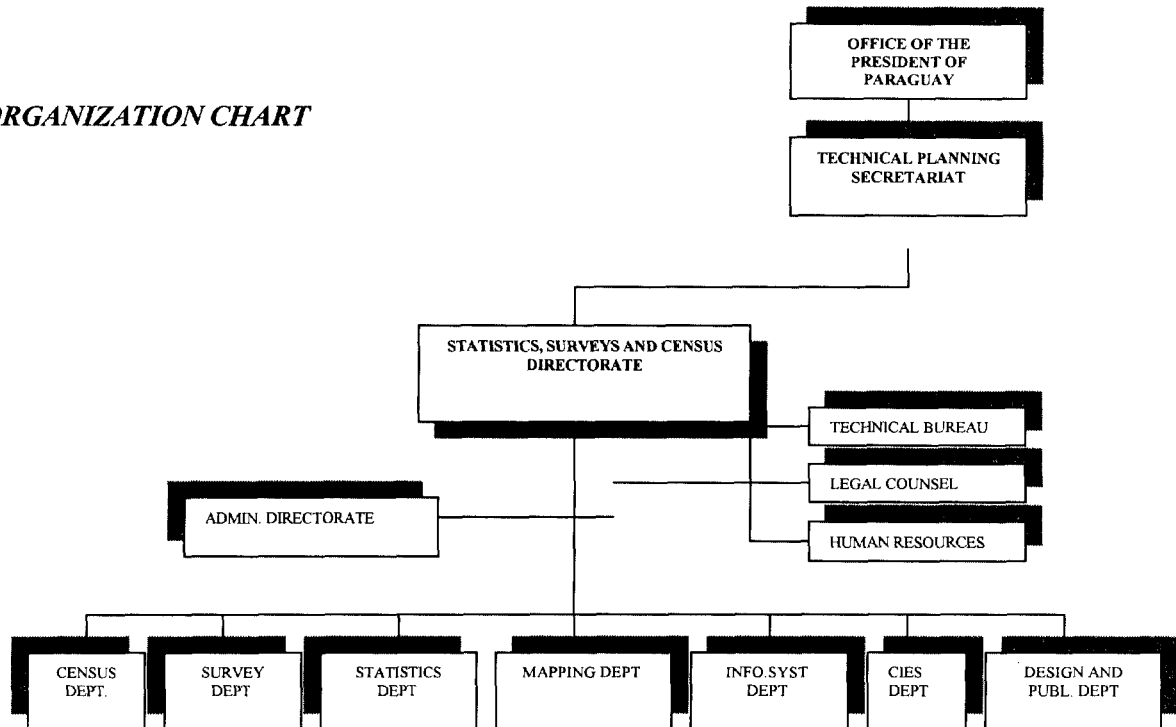
CONSOLIDATED BUDGET BY COMPONENT (in U.S. dollars)				
BUDGET CATEGORY	IDB	Local contr.	Total	%
I. Preparatory (pre-enumeration) stage	5,050,130	488,320	5,538,450	47%
a. Consulting services	1,182,340	260,470	1,442,810	12%
b. General support and services	1,537,960	105,600	1,643,560	14%
c. Materials and supplies	1,786,460	97,250	1,883,710	16%
d. Equipment	543,370	25,000	568,370	5%
II. Enumeration stage	2,679,945	375,185	3,055,130	26%
a. Consulting services	1,112,885	0	1,112,885	9%
b. General support and services	1,456,600	214,000	1,670,600	15%
c. Materials and supplies	110,460	161,185	271,645	2%
III. Post-enumeration stage	692,700	72,300	765,000	6%
a. Consulting services	526,700	0	526,700	4%
c. Materials and supplies	166,000	72,300	238,300	2%
IV. DGEEC institution-strengthening	102,000	0	102,000	1%
a. Consulting services	102,000	0	102,000	1%
V. Management and administration	164,520	0	164,520	1%
a. Consulting services	144,000	0	144,000	1%
b. General support and services	20,520	0	20,520	0%
Contingencies	298,705	495,195	793,900	7%
Audits	120,000	0	120,000	1%
SUBTOTAL	9,108,000	1,431,000	10,539,000	89%
Finance charges	92,000	1,169,000	1,261,000	11%
1. Interest		1,109,000	1,109,000	9%
2. Credit fee		60,000	60,000	1%
3. Inspection and supervision	92,000		92,000	1%
GRAND TOTAL	9,200,000	2,600,000	11,800,000	100%
Percentage share	78%	22%		

III. PROGRAM IMPLEMENTATION

A. Borrower and executing agency

- 3.1 The **borrower** for the program will be the Republic of Paraguay. The **executing agency** will be the Statistics, Surveys, and Census Directorate (DGEEC) of the Technical Planning Secretariat (STP) in the Office of the President of Paraguay.
- 3.2 As was noted in ¶1.9, DGEEC is the successor to the Statistics Directorate (DGE) established by Decree-Law 11,126 of 20 February 1942. Its current structure and operations are fundamentally those of its forerunner. The 1942 decree put the Directorate in charge of the technical side of all statistics work, whatever its form or end-purpose or executing government agency, and of deciding on, planning, and directing any statistics project or program it considers necessary or useful.
- 3.3 The following laws and regulations came out subsequent to Decree-Law 11,126 that had created DGE: (i) Decree 26,326 of 2 May 1967, which established a General Statistics Working Group to advise DGE on developing a National Statistics Program; (ii) Decree 15,415 of 19 October 1970 that repealed the 1967 decree and replaced the Working Group with a Statistics Council. This later executive order contained the first express mention of DGE's statistics work, renaming it the "Statistics and Census Directorate" (DGEC). DGEC was given the chair of the Statistics Council, that body's mandate being to plan and coordinate statistics work falling by law to that agency and to other units of the National Statistics System; (iii) Law 49 of 27 December 1989 which transferred DGEC (until then under the Ministry of Finance) and its assets, budget, and staff to the Technical Planning Secretariat (STP) in the Office of the President of Paraguay; and (iv) Decree 2,837 of 23 May 1994 which reorganized the STP and transferred the statistics directorate (by now called DGEEC) to that bureau, specifying that the agency would "continue to be governed by Decree-Law 11,126 of 1942 and Law 49/89".
- 3.4 **Institutional structure.** DGEEC, now part of the STP, has a Director-General and the following support units: Administrative Directorate, headed by a Director; Technical Bureau; Legal Counsel, and Human Resources Division. Its technical area is made up of Census, Survey, Statistics, Mapping, and Information Systems Departments, the Statistical Information Center (CIES), and Design and Publications, which includes the agency's print shop. Each of these units is headed by a chief. See the following organization chart.

ORGANIZATION CHART



3.5 **Executive, staff, and funding.** The two authority levels within DGEEC are its Director-General and heads of the departments and Administrative Directorate. It has a staff complement of 138 (56 professionals and 82 administrative staff), apportioned as follows: 5% in the Director-General's Office; 22% in the Administrative Directorate; 4% in the Technical Bureau, 1% in the Office of the General Counsel, 5% in the Human Resources Division, 5% in the Census Department, 15% in the Survey Department, 7% in the Statistics Department, 11% in the Mapping Department, 10% in the Information Systems Department, 7% in the CIES, and 8% in Design and Publications. DGEEC's approved 1999 budget was 2.677 billion guaraníes (US\$1 million). Its 2000 budget is 106% higher, at 7.287 billion guaraníes (US\$2.2 million). Budget performance is improving steadily: 78% of the approved 1999 budget was expended compared to 60% of the 1998 budget.

3.6 **Authority and responsibilities.** Each of DGEEC's technical and support departments has clearly defined functions and responsibilities.

- a. **Office of the Director-General.** The Director-General is in charge of DGEEC's technical work and administrative operation, is its official representative in dealings with other government agencies and counterpart institutions in other countries, and establishes plans and activities in accordance with annual programming exercises carried out with senior aides and department heads. The Director monitors, supervises, and directs DGEEC's operations and its publications and information plan, and manages the agency's resources in accordance with its budget and annual expenditure plan.

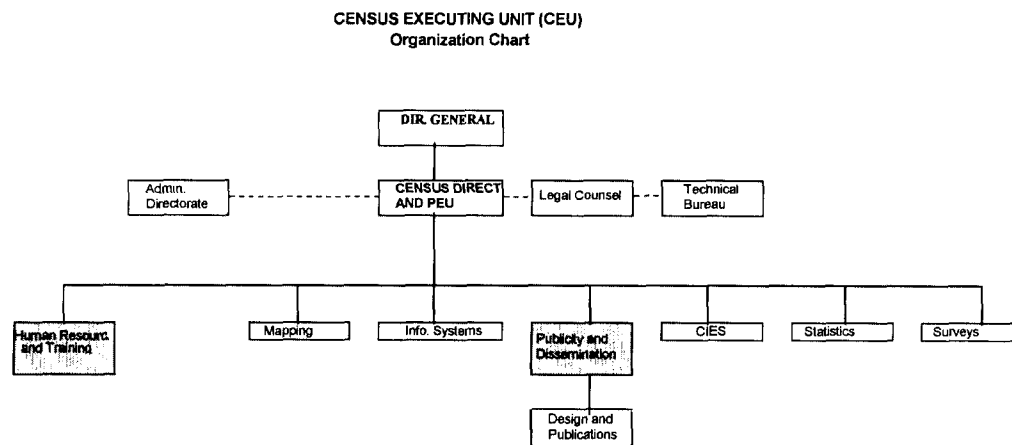
- b. **Administrative Directorate.** Prepares annual budgets and executes expenditure plans; in charge of payment orders, annual reporting, issuing checks, and controls of accounting, procurement, inventories and stores. Oversees administrative and accounting staff and general services workers (cleaners, drivers, etc.).
- c. **Technical Bureau.** Advises the Director-General on statistical analysis, research, studies, and publications. Assists with technical operations work as necessary. Establishes relations as required for purposes of DGEEC project management and coordination.
- d. **Human Resources Department.** Administers DGEEC/staff relations, finding ways to ensure that both sides adhere to the pertinent laws and employment contracts. The Department has built personal and professional files on DGEEC employees and, based on those working records, organizes annual training plans and tracks the professional development of DGEEC staff.
- e. **Census Department.** Plans and conducts national population and housing censuses; organizes census databases; processes, tabulates, and analyzes census data; recommends and prepares publications. Analyzes population data and statistics; does research and training on population issues and population forecasting. Currently engaged in preparatory work for Census 2002.
- f. **Survey Department.** Develops indicators to portray labor market conditions, standards of living of private households and trends. Specific tasks: (i) prepares, conducts, and evaluates (desk and field work) annual Household Surveys and biennial Comprehensive Household Surveys; (ii) corrects and processes other survey data; (iii) produces regular publications and innovative ones to meet user needs; and (iv) produces tables tailored to different users.
- g. **Statistics Department.** Compiles, organizes, and disseminates official statistics and papers on statistical theory and practice, in order to produce and process data essential for coordinating government macroeconomic policies.
- h. **Mapping Department.** Plans map updates and updates maps (desk and field work), by urban and rural area, to support DGEEC activities; produces maps with sectoral variables; updates and maintains digital maps; in charge of the georeferenced data system used by other departments.
- i. **Information Systems Department.** Processes data produced and gathered by other DGEEC departments for eventual publication; manages the information systems network and Web page; provides technical support and computer-systems training for all other DGEEC units.
- j. **Design and Publications Department.** Produces graphics generated in DGEEC departments: layout, mock-ups, design, assembly, print checks and printing,

publication of books, brochures, catalogues, press releases, forms, and any other resource to expedite communications between DGEEC and users.

- k. **Statistical Information Center (CIES).** Organizes, registers, and distributes DGEEC documents and publications and associated reference materials, adhering to national and international standards on documentation and reference resources.

B. Implementation plan and administration of the program

- 3.7 Responsibility for preparing and conducting Census 2002 will fall to a Census Executing Unit (CEU) which also will execute the Bank's loan. The CEU will report to the DGEEC Director. The plan is to create a Census Directorate to take charge of the census operations, to help the CEU with technical, executive, and administrative tasks. DGEEC departments directly involved in the census will report directly to the Census Director throughout the census exercise. A Program Executing Unit (PEU) will be set up within the Census Directorate to take care of technical, administrative, and accounting tasks for the program's implementation and monitoring (see the organization chart that follows).



- 3.8 The PEU will assist in the program's administration and coordinate execution of activities for the four components. It will be made up of the Chief of the Census Department as Director, and a technical assistant, administrative and accounting assistant, and procurement assistant assigned full-time. **The following will be conditions precedent to the first disbursement of Bank funds: (i) entry into force of the resolution creating the CEU and (ii) setup of the PEU, including hiring of the technical, administrative and accounting, and procurement assistants, and full-time appointment of the Census Director.** Terms of reference for the PEU consultants are in the program's technical files.

1. Program Executing Unit (PEU)

- 3.9 The PEU to be set up within DGEED will be in charge of the program's administration, reporting to the DGEED Director-General. Its core functions will be to:
- a. Prepare annual work plans (AWPs) and status reports on the program.
 - b. Open and operate separate bank accounts specifically to handle funds from the Bank and local counterpart funds.
 - c. Arrange for and secure counterpart resources and process loan disbursement requests following Bank procedures (including setup of a revolving fund and subsequent replenishments).
 - d. Keep careful records of supporting documentation underlying disbursement requests submitted to the Bank.
 - e. Prepare the program's financial statements for audit, and select a firm of auditors to audit the financial statements each year.
 - f. Draw up, with help from the respective Technical Coordinator (Mapping, Information Systems, Design and Publication, or Statistics), short-lists of consultants and/or seek proposals from professional services firms as provided for in the program activities.
 - g. Submit to the Bank for its no-objection short-lists or proposed short-lists of consulting firms, including terms of reference, work timetable, and estimated costs in each case.
 - h. Purchase and contract for goods and services for the program.
 - i. Make payments for consulting services and goods for the program and keep records on the program consultants and the associated vouchers for recording and auditing by the responsible entity, as the eventual loan contract will provide.
 - j. Coordinate execution of the program components.
 - k. Coordinate with the Bank on activities to implement the program, responding promptly to Bank requests or requirements.

C. Operating procedures

1. Implementation of program components

3.10 Consultants and general support services will be engaged and goods purchased for the different program components in accordance with terms of reference and technical specifications for equipment agreed upon by the Bank and the borrower (available in the program technical files).

3.11 The implementation structure for each component is described below.

a. Preparatory stage

3.12 **Planning and organization.** This will be the responsibility of the Census Director, with assistance from CEU directorate and department heads.

3.13 **Pre-enumeration work and map updating.** The Census Director will be in charge of this area. **Maps** will be updated by the Mapping Department under the supervision of its chief, who will monitor field and desk work. Responsibilities include work scheduling, proposing staff selections with assistance from the Human Resources Department, and executing the plan.

3.14 **Census trials and definition of instruments.** The Census Director will be directly in charge of this work, with support from the CEU. Since every stage of the census will be tested, the entire census apparatus will be involved.

3.15 **Training.** This area also will be the Census Director's responsibility, with a training coordinator. The coordinator will propose a work plan and method, select trainers, and be in charge of training delivery.

3.16 **Publicity and public awareness-raising.** A Publicity and Information Department will be set up for this activity, to propose a work plan, execute the activities that DGEEC will be performing directly, and monitor and coordinate with the firm to be hired following the established procedures.

b. Enumeration stage

3.17 **Field enumeration.** This will be the Census Director's responsibility, with CEU support. She will have one coordinator for Asunción and another for the rest of the country. Working under the Asunción coordinator will be Section Chiefs, then under them the Area Chiefs and chiefs for multi-household buildings, who will oversee the work of supervisors and enumerators. Under the "Rest of Country" coordinator will be the Departmental Chiefs, supervising District Chiefs who will in turn oversee supervisors and enumerators.

c. Post-enumeration stage

- 3.18 **Processing of returns.** The Chief of the Information Systems Department will be in charge of this work. Among his duties will be proposing a work plan, selecting staff to hire (with assistance from the Human Resources Department), and executing the plan.
- 3.19 **Census evaluation and population estimating.** These activities will be under the direct responsibility of the Census Director, with support from other CEU units as she considers necessary.
- 3.20 **Release of results.** The Census Director will be directly in charge of data products, with assistance from the Information Systems and Publicity and Information Departments. The latter department will propose a release and distribution program and distribute census data products.

d. DGEEC institution-strengthening

- 3.21 **Institution-strengthening.** Studies planned for this component will be produced by the Census Directorate and the Technical Bureau, under the supervision of DGEEC's Director-General.

2. Annual work plans

- 3.22 To schedule the program's operation, the PEU will devise and follow annual work plans (AWPs) for the program. These will consist of a report and work plan for the calendar year, including: (i) planned number of activities, their timetable and costs; (ii) programming objectives and targets for the period; and (iii) funding requirements for the period, signaling major milestones to attain the objectives. **The AWP for year 1 of the operation must be submitted as a condition precedent to the first disbursement of proceeds of the loan.** AWP for subsequent years are to be presented to the Bank within the 60 days preceding the end of the previous implementation year. **As a special program-implementation contractual condition, the executing agency must provide the Bank with AWP for successive years of the program.**

D. Monitoring and evaluation

- 3.23 The program will be monitored and evaluated by reference to progress benchmarks set out in its Logical Framework. Attainment of AWP targets will be gauged in accordance with each component's work schedule. The Logical Framework is presented in Annex II-1 to this proposal; the timetable for each component's activities is in the program's technical files. Both these tools will be used to monitor and evaluate the operation.

1. Inspection and supervision

- 3.24 The PEU will monitor each component and supervise the overall program on the basis of annual plans drawn up for each component. There will be periodic monitoring and evaluation meetings to this end.
- 3.25 Semiannual progress reports will be sent to the Bank throughout the life of the program, within 60 days after the end of each six-month period. The reports will describe progress made on activities in the AWP and the program's performance by reference to the established indicators. They also will explain any deviations from the benchmarks and changes needed in the plan for the following six-month period.
- 3.26 The Paraguay Country Office will supervise the program's execution for the Bank. The Bank, the Census Directorate, and the PEU will meet once a year to assess what was accomplished in the previous year's AWP, compare progress made in each component against Logical Framework indicators for that component, and work out the AWP for the following year, based on the PEU's proposed update plan each year.

2. Audits

- 3.27 Within 120 days after the end of each accounting period throughout the program, the borrower will present the program's financial statements, audited by firms of independent public accountants acceptable to the Bank. Audit costs will be defrayed with funds from the Bank's loan.

3. Ex post evaluation

- 3.28 In keeping with Bank policy, the executing agency was asked whether it wished an ex post evaluation to be done of the program, and declined. The Bank's team would make sure that, during the program's implementation, the executing agency has sufficient reports (AWPs, consultants' reports, evaluations of specific issues, progress reports), plus findings of the tracking of Logical Framework indicators, to enable the Bank to conduct an ex post evaluation were this deemed advisable.

E. Procurement

- 3.29 The Bank's procedures must be followed in hiring consultants and purchasing goods for the program. International publicity will be required in calls for bids for goods worth US\$250,000 equivalent or more and for consulting contracts over US\$200,000 equivalent. There is no provision in the program for financing construction work. Annex III-1 presents the program's procurement plan.
- 3.30 Because of the unique features of the census, involving a large variety of specific activities, huge numbers of consultants and support personnel will have to be hired for a broad range of specialized or general services. It is proposed that funds from

the Bank's loan be used to hire the support personnel listed in Table 4, for varying terms, to help at different stages of the numerous census tasks. Given the large numbers of non-specialized support personnel required for those tasks and the modest unit cost involved, an expeditious recruitment and contracting system has been devised, which also will ensure that basic principles of competition and transparency in Bank-funded contracting are observed. The following are key features of the proposed arrangement: (i) a widely publicized call for candidates for support-services contracts; (ii) qualifications required; and (iii) a generic job description for each category of services that are expressly eligible for this procedure. Thus, selection and contracting will be governed by Annex C, amended as indicated.

Table 4	
Support services required for census tasks	
Type of task	Number
1. Digitizing and segmentation	20
2. Enumerators	291
3. Departmental and district chiefs	280
4. Field assistants	67
5. Data entry and coding	226
6. Field supervisors	8,536
7. Trainers	45
8. Records personnel	9
9. Drivers	5
Total	9,479

- 3.31 Likewise because of the large number of census support personnel to be hired, a change is recommended in the procedure for Bank review of the selection and hiring process for these workers, in order to expedite the program and the Country Office's supervision work: allow ex post reviews, by sampling, for contracts under US\$20,000. If ex post sampling checks revealed that documents or procedures used in selecting or hiring such personnel were contrary to Bank policies, the services in question would not be paid for out of Bank funds for the program.

F. Revolving fund

- 3.32 A revolving fund would be set up for the program in a special bank account in the program's name. Given the huge number and simultaneity of required contracts and payments, the bulk of them in year 1 of the program according to the critical path for the census, it is proposed that the fund consist of up to 10% of the Bank loan proceeds. This will ensure that funds are on hand as needed for activities in the program, which involves a technical-cooperation loan.

G. Program duration and disbursement timetable

- 3.33 The program would operate for three years from the effective date of the loan contract. The disbursement period would be three years and six months from that same date. The disbursement timetable by component is shown below.

DISBURSEMENT TIMETABLE BY PROGRAM YEAR (US\$000)				
FUNDING SOURCE BY COMPONENT	TOTAL	Year 1	Year 2	Year 3
I. Preparatory (pre-enumeration) stage	5,538	3,918	1,620	0
1. IDB	5,050	3,430	1,620	0
2. Counterpart	488	488	0	0
II. Enumeration stage	3,056	0	3,056	0
1. IDB	2,680	0	2,680	0
2. Counterpart	376	0	376	0
III. Post-enumeration stage	765	0	416	349
1. IDB	693	0	416	277
2. Counterpart	72	0	0	72
IV. DGEEC institution-strengthening	102	0	0	102
1. IDB	102	0	0	102
2. Counterpart	0	0	0	0
V. Program management and administration	164	54	54	56
1. BID	164	54	54	56
2. Counterpart	0	0	0	0
Associated costs	120	40	40	40
1. IDB	120	40	40	40
2. Counterpart	0	0	0	0
Contingencies	794	155	470	169
1. IDB	299	60	170	69
2. Counterpart	495	95	300	100
Finance charges	1,261	196	459	606
1. IDB	92	30	31	31
2. Counterpart	1,169	166	428	575
TOTAL	11,800	4,363	6,115	1,322
1. IDB	9,200	3,614	5,011	575
2. Counterpart	2,600	749	1,104	747

IV. VIABILITY, BENEFITS, AND RISKS

A. Institutional and financial viability of the program

- 4.1 This program has been designed to tie in exactly with the executing agency's mandate and functions. All the planned activities therefore match tasks falling to departments and units of the Statistics, Surveys, and Census Directorate (DGEEC) that are engaged in Census 2002. The content and scope of the activities were worked out with input from and active participation by officials who will be involved with components of the program. These officials were found to have the expertise needed to guide and monitor the operation. Accordingly, there is a sufficient sense of ownership of the program to assure that it will be accepted and duly implemented.
- 4.2 The government has accorded high priority to Census 2002 and thus has put the legal and organizational bases and funds in place for it.¹¹ A bill has been drafted marking 28 August 2002 as Census Day. **As a condition precedent to the first disbursement of the loan proceeds, the borrower must demonstrate that this law has entered into force.** Thanks to its cumulative experience in ongoing statistics activities, notably the Comprehensive Housing Surveys and the last (1992) National Population and Housing Census, DGEEC has the technical and operational capacity to conduct Census 2002 successfully. Its technical side will be bolstered by consultants hired for various facets of the program.
- 4.3 Another important consideration is that DGEEC has already received technical assistance from the Bank, and thus has officials on staff who are familiar with how these kinds of operations are executed and administered. This will expedite the program proposed here. Nevertheless, when analyzing the program it was decided that there was a need to strengthen what would be the Program Executing Unit, staffed mainly by DGEEC officers seconded full-time to this operation. The plan is to hire, as a technical advisor, a consultant with a solid international track record in operations of this type and an accounting and administrative assistant to efficiently coordinate the operation.
- 4.4 Assessments of the program's financial viability looked at whether DGEEC would be able to furnish the requisite counterpart to the loan. DGEEC budget estimates for 2001 and the following two fiscal years 2002 and 2003 do contain the additional funds needed for this purpose, totaling US\$2.6 million over three years, in accordance with the disbursement timetable. US\$1.1 million would be for payment of interest and other financial charges on the proposed loan.

¹¹ Decree-Law 281 authorized DGEEC to start work on Census 2002. DGEEC's Census 2002 team has been assembled. The preliminary 2001 budget estimate submitted to the Ministry of Finance includes line items for Census 2002 preparatory work.

B. Environmental and social impact

- 4.5 The Committee on Environment and Social Impact (CESI) reviewed the Profile II summary for this operation on 25 August 2000. The conclusion was that the program will have no adverse environmental effects and will yield benefits on the social side. Data processed from Census 2002 returns will make it easier to pinpoint poverty zones and areas of heaviest demand or greatest gaps in public services of all kinds; this will include studies of the indigenous population. The information the census will provide on existing housing units and their occupants makes it a starting point for studies of ecologically fragile areas. It also will provide a picture of the predominant economic activity and living conditions of Paraguayans.
- 4.6 Like the censuses being planned by other MERCOSUR countries, Paraguay's census will ask questions, for the first time, about environmental conditions associated with housing and habitat: dwellings in floodprone areas, solid waste collection, proximity of garbage dumps, paved roads, storm drainage, sanitary sewage disposal, piped water, cooking fuel, piped natural gas, number of rooms (overcrowding), etc. The CESI recommended that questionnaires be carefully designed to make sure that gender and ethnicity topics received due attention. It also asked the project team to build into the program design, at the preparatory (pre-enumeration) stage, publicity using suitable media to make sure indigenous communities learn of the coming census and to encourage them to take part, and also to consult agencies working in this field to add relevant questions to the additional questionnaire that would be administered to indigenous respondents.

C. Benefits

- 4.7 The program will yield an array of benefits. Census 2002 data will be used for different purposes both by government and the private sector, in Paraguay and internationally. The census findings will benefit Paraguayans at large, providing inputs for development policy, strategy, plan, and program design and execution. The census is virtually the only source of statistical inquiry on small geographic areas (departments, municipalities and others) since surveys are not statistically representative at those levels, and administrative records provide information only on such services as health and education. Indigenous communities stand to gain much from Census 2002 by virtue of the extra questionnaire that will be recording information from indigenous respondents.
- 4.8 At one time, the purpose of a population census was to count a country's inhabitants. Today, censuses are an important source of knowledge on economic and social conditions, employment, migration, housing, education, public health, social welfare, and a host of other issues facing government and private-sector decision-makers. Social scientists and population analysts use census data to study gaps between geographic areas and social groups, looking at poverty and unequal opportunity, gender issues, and issues involving the development of indigenous and

aboriginal peoples and such topics as their organization, territory, culture, and what they produce.

- 4.9 In Paraguay specifically, data on the territorial distribution of the population, its age structure and breakdown by sex are the basis for estimates of numbers of people eligible to vote in general, provincial, and municipal elections. Census data are not used just for scholarly research: they have practical applications for local and industrial development and trade. Elements of particular interest are shifts in the urban/rural population split, growth of built-up areas, geographical distribution of the population by occupation or educational attainment, shifts in age structure of the population, mortality, fertility, and migration.
- 4.10 Apart from statistics *per se*, Census 2002 will produce statistical maps. These, with the lists of housing units and households to be compiled, will constitute a sampling frame for future sample surveys and furnish data to develop a geographic information system.
- 4.11 The program will help devise arrangements whereby DGEEC could recover part of the census costs. This could entail developing a strategy for sales of reports, journals, and periodic bulletins providing current statistics, and the possibility of giving different classes of census-data users access to the DGEEC database. The studies produced in the staff training part of the DGEEC institution-strengthening component could be offered for sale.

D. Risks

- 4.12 By definition, a census must be conducted simultaneously throughout the country at a selected moment in time. This requires strict adherence to a timetable: since each step is a prerequisite for the following one, any change in the schedule can jeopardize the success of the operation. Thus, as part of the program's design, there are provisions for the requisite funds from the Bank and from the government to be made available as needed. Likewise, the procurement plan anticipates special procedures for the sometimes-urgent, massive goods and services contracting that will be called for.
- 4.13 Much of the census work will be performed by unpaid recruited volunteers (students, teachers, government employees). To counter the risk of volunteers' failing to appear on the scheduled dates for training, planning, or field enumeration, and to improve operating logistics generally, the program has incentives in the form of campaigns to explain the importance of the census to Paraguayans and win communities' respect for what their census-takers will be doing. Also, because Paraguay has a sizeable indigenous population, the plan is to have representatives of indigenous communities on the enumeration team, to communicate with respondents in their native tongue and make the enumeration process more efficient.

NATIONAL POPULATION AND HOUSING CENSUS PROGRAM (CENSUS 2002)
LOGICAL FRAMEWORK

02 NATIONAL POPULATION AND HOUSING CENSUS	CENSUS DATA GENERATION
the design, implementation, and on of sustainable overall, depart- and municipal human development and programs by furnishing data to that end.	<p>PURPOSE</p> <p>Assist the Statistics, Surveys, and Census Directorate (DGEEC) in conducting the 2002 National Population and Housing Census, by financing human and material resources and providing funding to ensure that work is efficiently performed, of high quality, and completed on schedule. An additional aim is to operational and management capacity in DGEEC.</p>
	<p>COMPONENTS</p> <p>I. Preparatory stage</p> <ol style="list-style-type: none"> 1. Planning and coordination 2. Pre-enumeration work and map updating 3. Census trials and definition of instruments 4. Enumerator selection and training 5. Publicity and awareness-raising <p>II. Enumeration</p> <ol style="list-style-type: none"> 1. Field enumeration <p>III. Post-enumeration stage</p> <ol style="list-style-type: none"> 1. Processing of returns 2. Census evaluation 3. Release of results <p>IV. DGEEC institution-strengthening</p> <ol style="list-style-type: none"> 1. Studies and training

LOGICAL FRAMEWORK - CENSUS DATA GENERATION

OBJECTIVES	TARGETS	INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
<p>USE</p> <p>OGEEEC in ting the 2002 al Population and g Census, by ng human and l resources and to ensure that work is efficiently ed, of high and completed on e. An additional o build operational nagement capacity EC.</p>	<p>SITUATION AT PROGRAM'S END</p> <p>Have information on:</p> <ol style="list-style-type: none"> 1. Demographic profile of the population, spatial distribution, and migratory flows 2. Educational attainment and employment status of Paraguayans 3. The housing situation (in quantitative and qualitative terms) and household services 4. Poverty and living standards, identifying vulnerable groups, particularly indigenous populations 	<p>Timely availability, with the requisite quality, of a database of final findings at the national, departmental, small-area, and indigenous-community level (Oct. 2003)</p>	<ul style="list-style-type: none"> • Progress reports; reports on analyses, evaluation, and dissemination of results • Outputs (publications, CD-ROM, Web page) 	<ul style="list-style-type: none"> • Civil society participates actively cooperating in the census generally in the enumeration particularly. • Local counterpart funds are allocated and available on and enabling legislation for the census is passed, every stage of the census can be conducted on time and to the requisite standard of quality
<p>COMPONENTS</p>				
<p>Operatory stage</p> <p>Planning and organization</p>	<p>Devise a strategy and establish the legal, technical, financial, and organizational bases for Census 2002.</p> <p>Devise an organization chart, timetable, and budget for the census.</p> <p>(Jan. 2001 to Dec. 2003)</p>	<p>Timely availability, with the requisite quality, of:</p> <ul style="list-style-type: none"> • Census plan (organization chart, budget) (March 2001) • Census Law (May 2001) • National Census Commission (March 2001) • Census Operating Unit (March 2001) 	<ul style="list-style-type: none"> • Legislation authorizing and launching the census • Work teams formed • Technical reports on design of census apparatus and organizational instruments 	<ul style="list-style-type: none"> • Local counterpart funds are allocated and available on and enabling legislation for the census is passed, every stage of the census can be conducted on time and to the requisite standard of quality

LOGICAL FRAMEWORK - CENSUS DATA GENERATION

OBJECTIVES	TARGETS	INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
<p>• Enumeration work and map updating</p>	<ul style="list-style-type: none"> • Complete list of residential housing and population count done, to assign enumeration workloads • Maps updated to segment Paraguayan territory <p>(May 2001 to June 2002)</p>	<p>Timely availability, with the requisite quality, of:</p> <ul style="list-style-type: none"> • Lists of buildings and their use, and population count (June 2002) • Maps for the different census-apparatus levels and for enumerators in each jurisdiction (June 2002) • Segmentation table (June 2002) 	<ul style="list-style-type: none"> • Semiannual monitoring reports • Outputs (plans, maps, databases) 	<ul style="list-style-type: none"> • DGEEC has the requisite technical and operational capacity and assigned personnel, equipment, and funds as required.
<p>• Census trials and definition of instruments</p>	<p>Have the required conceptual instruments to conduct preparatory activities, primarily for enumeration tasks</p> <p>(May 2001 to August 2002)</p>	<p>Timely availability, with the requisite quality, of:</p> <ul style="list-style-type: none"> • Pilot trial results (June 2001) • Experimental census results (December 2001) • Final census form and indigenous respondent form (May 2002) • Training plan for the census apparatus (May 2001) • Final instruction manuals (June 2002) • Data capture system defined (May 2001) • Plan for evaluating data quality (June 2001) • Guidelines for data consistency, coherence, and imputation (July 2002) • Tabulation plan for data dissemination (April 2002) 	<ul style="list-style-type: none"> • Semiannual monitoring reports • Technical reports • Documents and other physical outputs (census form and resource materials) 	<ul style="list-style-type: none"> • DGEEC has the requisite technical and operational capacity and funds are made available on schedule.

LOGICAL FRAMEWORK - CENSUS DATA GENERATION

OBJECTIVES	TARGETS	INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
Training	Field enumerators are on board and fully trained (Dec. 2001 to Aug. 2002)	Timely availability, with the requisite quality, of: <ul style="list-style-type: none"> • Census training apparatus (Dec. 2001) • Instructional materials (March 2002) • Field personnel recruited and trained (approx. 59,150 enumerators, 8,500 supervisors, 270 district chiefs and assistants, 44 departmental chiefs and assistants) (Aug. 2002) 	<ul style="list-style-type: none"> • Semiannual monitoring reports • Instructional materials produced 	<ul style="list-style-type: none"> • The requisite technical and operational capacity and funds available on schedule
Publicity and public awareness-raising	Motivate all Paraguayans to participate in the census and prepare the ground for respondents to provide complete and accurate information (March 2001 to Aug. 2002)	Timely availability, with the requisite quality, of: <ul style="list-style-type: none"> • An advertising and awareness-raising strategy (June 2001) • Materials produced for media campaigns (TV and radio spots, press articles) (March 2002) • Information brochures (Dec. 2001) 	<ul style="list-style-type: none"> • Semiannual monitoring reports • Copies of outputs (videos, articles, brochures, CDs, posters) • Impact assessment report 	<ul style="list-style-type: none"> • Advertising firm with the technical capacity and the right kind of vision
Enumeration stage				
Field enumeration	Visit all housing units nationwide and interview occupants, filling in census forms (Aug. 2002 to Sept. 2002)	Timely availability, with the requisite quality, of: <ul style="list-style-type: none"> • Roughly 1.4 million completed household forms (Sept. 2002) • Enumeration of approximately 5.8 million people (Sept. 2002) 	<ul style="list-style-type: none"> • Semiannual monitoring reports and reports from enumeration officials nationwide • Census evaluation • Check sheets 	<ul style="list-style-type: none"> • Supervisory capacity of departmental and district chiefs, and active participation of census-takers • Substantial public cooperation • Funds allocated and available on schedule

LOGICAL FRAMEWORK - CENSUS DATA GENERATION

OBJECTIVES	TARGETS	INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
<i>Post-enumeration stage</i>				
Processing of census returns	Store census results on magnetic media and process data using computers, to yield tabulations and technical instruments for subsequent processes (Aug. 2002 to Dec. 2003)	Timely availability, with the requisite quality, of: <ul style="list-style-type: none"> • Census returns archived (Oct. 2002) • Data captured on magnetic media (July 2003) • Original and cleaned-up census file (Dec. 2003) 	<ul style="list-style-type: none"> • Semiannual monitoring reports • Files available • Data validation and consistency programs • Databases 	<ul style="list-style-type: none"> • Technical capacity • Preceding stages completed • Funds allocated and available on schedule
Census evaluation and revision of population estimates	Measure census omission rate, assess quality of data elicited, revise population estimates (Sept. 2003 to Dec. 2003)	Timely availability, with the requisite quality, of: <ul style="list-style-type: none"> • Estimates of census omission rate and quality assessment (Dec. 2003) • Revised population estimates (Dec. 2003) 	<ul style="list-style-type: none"> • Semiannual monitoring and evaluation reports • Technical reports 	<ul style="list-style-type: none"> • DGEEC technical capacity • Funds allocated and available on schedule
Release of results	Disseminate census findings nationwide, to the public and private sectors, and internationally (Nov. 2002 to Dec. 2003)	Timely availability, with the requisite quality, of: <ul style="list-style-type: none"> • Hard-copy census data (Dec. 2003) • Web page and CD-ROM (Oct. 2003) • Database – GIS (Dec. 2003) • Cost recovery policy in operation (Dec. 2001) 	<ul style="list-style-type: none"> • Semiannual monitoring reports • Various documents and materials • Data products for dissemination • Cost recovery rules 	<ul style="list-style-type: none"> • DGEEC technical capacity • Funds allocated and available on schedule
DGEEC strengthening	Train DGEEC staff in census return analysis, through the preparation of various studies (Aug. 2002 to Dec. 2003)	Timely availability, with the requisite quality, of studies on: <ul style="list-style-type: none"> • Population forecasting (Dec. 2003) • Indigenous groups (Dec. 2003) • Women (Dec. 2003) • Electoral demographics (Dec. 2003) • Fertility (Dec. 2003) • Mortality (Dec. 2003) • Business demographics (Dec. 2003) • Housing shortage (Dec. 2003) • Feasibility of business census (Dec. 2002) 	<ul style="list-style-type: none"> • Technical reports 	<ul style="list-style-type: none"> • Technical capacity • Required advisory support is received

**PROGRAM OF SUPPORT FOR THE 2002 NATIONAL POPULATION
AND HOUSING CENSUS (PR-0130)**

PROCUREMENT TABLE

Components / Activities	Amount (US\$000)	Procurement method	Estimated date
1. PREPARATORY (PRE-ENUMERATION) STAGE			
(i) Planning and organization			
Consulting services			
*Individual consultants (4)	68	ST-B	March 2001
*Equipment for pre-census work	170	LCB	March 2001
*Processing equipment	123	LCB	March 2002
*Equipment for information/publicity	250	ICB	March 2002
*Supplies and furnishings	25	LCB	April 2002
(ii) Pre-census map updating			
Consulting services			
*Individual consultants (74)	714	ST-B	February 2001
*Supplies and furnishings	57	LCB	March 2001
*Vehicles (30)	475	ICB	March 2001
(iii) Census trials and definition of instruments			
Consulting services			
*Individual consultants (290)	22	ST-B	July 2001
*Census forms (28,000), pilot trial	30	LCB	June 2001
*Census 2002 forms (1,650,000)	1,620	ICB	April 2002
*Materials for census trials	80	LCB	June 2001
(iv) Training			
Consulting services			
*Individual consultants (49)	128	ST-B	December 2001
(v) Publicity and public awareness-raising			
Consulting services			
*Individual consultants (2)	22	ST-B	May 2001
*Advertising firm (1)	715	ICCF	November 2001

Components / Activities	Amount (US\$000)	Procurement method	Estimated date
2. ENUMERATION STAGE			
Consulting services			
*Enumeration officers (8,855)	1,112	ST-B	January 2002
*Supplies and furnishings	271	ICB	January 2002
3. POST-ENUMERATION STAGE			
(i) Processing of returns			
Consulting services			
*Operations workers (218)	385	ST-B	June 2002
*Consultant (1)	30	ST-B	August 2002
(ii) Census evaluation and revised population estimates			
Consulting services			
*Consultant (1)	20	ST-B	June 2002
(iii) Release of results			
Printing of publications	186	LCB	September 2002
Consulting services			
*Individual consultants (8)	30	ST-B	January 2002
4. STRENGTHENING OF DGEEC			
Consulting services			
*Individual consultants (9)	102	ST-B	September 2002
PROGRAM EXECUTING UNIT			
Consulting services			
*Individual consultants (3)	144	ST-B	January 2001
PROGRAM TOTAL		6,779	

ICB international competitive bidding (over US\$250,000)

ICCF international competition for consulting firm (contracts over US\$200,000)

LCB local competitive bidding (under \$250,000)

ST-B standard Bank procurement procedures

PROPOSED RESOLUTION

PARAGUAY. TECHNICAL COOPERATION LOAN /OC-PR
Program to Support the Implementation of the 2002 National Population
and Housing Census

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Republic of Paraguay, as Borrower, for the purpose of granting it a financing to cooperate in the execution of a Program to Support the Implementation of the 2002 National Population and Housing Census. Such financing will be for the amount of up to nine million two hundred thousand dollars of the United States of America (US\$9,200,000), or its equivalent in other currencies, except that of Paraguay, which are part of the Ordinary Capital resources of the Bank, and will be subject to the "Special Contractual Conditions" and the "Financial Terms and Conditions" of the Executive Summary of the Loan Proposal.