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**UNRELIABLE ACCOUNT OF
WOMEN'S WORK:
EVIDENCE FROM LATIN
AMERICAN CENSUS STATISTICS**

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Anyone walking through the commercial areas of Mexico City, Lima, or Quito will be immersed in a crowd of street peddlers—men, women, and children—endlessly offering their merchandise in the streets and markets. A casual observer, driving through the roads of the Caribbean islands or passing through the Bolivian altiplano, will see men, women, and children working in the fields, harvesting a crop, preparing the land for planting, or feeding the pigs. The traveler might also see women spinning or canning goods to offer in the market. It is not difficult to verify the existence of working women. Yet, for a researcher or a planner to know the exact size of the female labor force through official statistics will be impossible, even when they are designed to record the women workers who contribute their labor to produce goods and services for the market.

This report addresses the quality of the official accounting of that part of women's contribution to the economy that is explicitly recognized by

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official statistics.¹ As is well known, statistics so far have not considered as an economic contribution the activities performed by women and men to satisfy human needs through the production of goods and services for their own consumption or that of their households. We intend to show, with quantitative examples, that a part of the officially recognized economic contribution is overlooked.²

The examples are taken from Latin American and Caribbean statistics, mainly from the 1970 census results.³ Because women's work in the labor market is partly invisible, national statistics do not fully account for it, and they therefore present an unrealistic and inaccurate account of women's contribution to the Latin American economies.

This appears to be an international problem, as recent findings on the Middle East,⁴ Africa,⁵ and India⁶ have shown, and it has serious ramifications. According to Elise Boulding: "The invisibility to planners of women's activities, including both market and nonmarket labor, has led to a faulty diagnosis of development problems. [Consequently,] social planners are

¹ The unreliability of statistics on the economic participation of women is also present in statistics on the work of children and the elderly of both sexes. The labor force participation of these two groups shares several of the characteristics of a large proportion of women's work in developing countries, as described in this study. Most analyses and conclusions of this article are also applicable to statistics on the labor force participation of children and the elderly.

² The importance of this topic is noted in numerous recent publications on the subject. See John D. Durand, *The Labor Force in Economic Development* (Princeton, N.J.: Princeton University Press, 1975); Stanislaus D'Souza, "Sex-based Stereotypes, Sex Biases and National Data Systems," document no. ST/ESA/STAT/99 (New York: United Nations, June 1980); Monica Fong, "Victims of Old-fashioned Statistics," *Ceres: FAO Review on Agriculture and Development* 13, no. 3 (1980): 29-32; Nancy Baster, *The Measurement of Women's Participation in Development: The Use of Census Data* (Brighton: University of Sussex, Institute of Development Studies, February 1981); Lourdes Benería, "Conceptualizing the Labor Force: The Underestimation of Women's Economic Activities," *Journal of Development Studies* 17, no. 3 (April 1981): 10-28; Constantina Safilios-Rothschild, *The Persistence of Women's Invisibility in Agriculture: Theoretical and Policy Lessons from Lesotho and Sierra Leone*, Working Paper no. 88 (New York: Population Council, Inc., Center for Policy Studies, September 1982); Ruth B. Dixon, "Women in Agriculture: Counting the Labor Force in Developing Countries," *Population and Development Review* 8, no. 3 (1982): 539-66.

³ At the time this article was written, results from censuses taken in the 1980s were not available.

⁴ B. Ibrahim, "Strategies of Urban Labor Force Measurement," *Cairo Papers*, vol. 5 (1983); H. Zurayk, "Women's Economic Participation: West Asia and North Africa," in *Population Factors in Development Planning in the Middle East*, ed. F. Shorter and H. Zurayk (New York: Population Council, Inc., 1985): 3-58.

⁵ R. Pittin, "Documentation of Women's Work in Nigeria: Problems and Solutions"; and W. De Vries Bastiaans, "Census Data and the Economic Activity of Women," in *Female and Male in West Africa*, ed. Ch. Opong (Winchester, Mass.: Allen & Unwin, 1983).

⁶ M. Fong, "Designing a Methodology for Measuring Women's Work in Agriculture," and S. Ramachandran, "Methodology for Valuating Women's Contribution to Economic Activities under Conditions of Irregular and Uncertain Participation" (papers delivered at the Technical Seminar on Women's Work and Employment, New Delhi, 1982).

currently operating with an essentially mythic image of locally available human resources and capacities, due to [women's] social invisibility."⁷

The invisibility of adult women workers in these statistics is related to the nature of their work, their gender roles, and the assumptions about the labor force that shape the design of the statistical information. A large proportion of women's work in developing countries is discontinuous, part-time, seasonal, frequently difficult to distinguish from domestic activities, performed within the traditional sector of the economy, in family enterprises, or self-employing. The economic role assigned to women is perceived as marginal whenever a sexual division of labor defines the economic leadership as male. Finally, official statistics—which follow either the recommendations of the Inter-American Statistical Institute (IASI) or of the United Nations Statistical Commission—have been designed to capture a type of activity whose underlying model is the activity of males in developed economies without crisis, economies characterized by continuity, an eight-hour workday, a five- or six-day workweek, and a working year of forty-eight to fifty-two weeks.

The international recommendations of the Committee for the Improvement of National Statistics (COINS) of the IASI, as well as the UN Statistical Commission recommendations, defined as economically active “all persons of either sex who furnish the supply of labour for the production of economic goods and services during the time-reference period chosen for the investigation.”⁸ The category includes employed as well as unemployed persons. Among the employed are classified all persons having a job during the time-reference period, including those in the unpaid family workers category, plus people temporarily absent from their jobs because of illness, accident, vacation, or strike. The unemployed are defined as all persons who during the time-reference period had no job but were seeking one for pay or profit, those who were not seeking one because of temporary illness or because they thought there were no jobs available, and those who had already made arrangements to start working in the near future. The remaining category, the “economically inactive population,” includes people engaged in housework, students, people confined in prisons and hospitals, and retirees and pensioners.

The underlying criterion for classifying specific sectors of the population as economically active is unclear. While the category “economically active” includes unpaid family workers who work for a relative's business,

⁷ E. Boulding, “Human Capacity and Development” (Dartmouth College, 1981, mimeographed).

⁸ United Nations, *Principles and Recommendations for Population and Housing Censuses*, document no. ST/ESA/STAT/SER.M/67 (New York: 1980), 93–94, par. 2.191–95; and Inter-American Statistical Institute, *Programa del Censo de América de 1970 (COTA-1970): Censos de población: Temas, definiciones, clasificaciones y cuestionarios utilizados por los países de la región americana* (Washington, D.C.: 1977), 123–25.

it excludes people engaged in domestic activities (homemakers) unless they are paid (domestic servants). In addition, censuses usually exclude women living in subsistence economies while they routinely count men in the same situation—a practice inconsistent with a concept that presupposes the existence of a market economy. The concept of “economically active population” (or “labor force”) was developed for capitalist economies with some degree of industrialization. It is not suitable to the economies of many developing countries, and it is in these countries that the inconsistencies between concept and measurement instruments become most apparent. Furthermore, it takes unemployment into account, but it does not consider a phenomenon of particular relevance in Latin America: underemployment.

All the Latin American censuses carried out during the 1970s follow the “labor force” approach. Consequently, it cannot be concluded that the quantitative assessments of the work force in general and the women’s work force in particular have been valid or reliable, or that such assessments have produced internationally comparable information. On the contrary, the implementation of the approach has differed among countries on the one hand, and, on the other, the conceptual and technical mistakes frequently threaten the validity and reliability of the results and, therefore, the comparability that is so highly sought by the specialized international institutions.

Collecting information on “activity status”

Thirteen Latin American countries⁹ used only one question to obtain information on “activity status,” one that was a variation on the question, “What did you do during the week?” or “Of the following types of activity, which one did you do?” The question was followed by the presentation of a list of precoded alternatives, the first one of which was “worked” or something similar to it, followed by those categories defined as “unemployed,” and, finally, by those referring to the economically inactive. The census enumerators were instructed to read the alternatives to the interviewee in that order, stopping at the *first affirmative answer*. This order of presentation of the stimuli, which attempts to give priority to those who are economically active, is especially relevant to the measure of women’s labor force participation. If the order of presentation were reversed, and the “homemaker” category headed the list, it is probable that women would place themselves in the “homemaker” (inactive) category rather than in the “economically active” category because of the greater prevalence, social

⁹ Argentina, Bolivia, Colombia, Cuba, Chile, Dominican Republic, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Paraguay, and Uruguay.

acceptance, and prestige that they see in the reproductive role, whatever other work they might do. For the same reasons, in the case where *all* alternatives are read off and the respondents are required to choose from among them, women would tend to select the "homemaker" category. Chile, Cuba, and the Dominican Republic read off all alternatives. This particular way of presenting the stimulus would probably result in a less valid measurement of the labor force in these countries and in measurements that would not be comparable internationally.

The difference in the order of presentation of the choices is not the only difference among the thirteen countries mentioned. In the censuses of Guatemala and Honduras, for example, certain recommendations to the census takers reveal an explicit intent to detect those who are economically active. Thus, the enumerators are told that when a respondent declares himself or herself a "homemaker," "student," or "retired," the interviewer should verify that the person really has not worked because many may have produced income and should therefore be classified as "economically active." These instructions probably increase the validity of the measurement.

Besides the thirteen countries analyzed, there were seven other countries¹⁰ that used only a heading or a title in the questionnaire, followed by a list of alternatives beginning with those defined as "economic activity" and followed by those defined as "economic inactivity." In these countries, there is no uniform presentation of this list of alternatives, and the way in which the questions are formulated depends on the enumerator. Again, the results are not necessarily a reliable source for international comparisons.

Brazil, Panama, and Venezuela differ from the other countries in that the three of them use more than one question to measure "activity status." Actually, Panama's questionnaire formally uses only one question (a question with only one identification number in the questionnaire), but, in fact, it includes two questions: the first to detect those who work and the second to classify those who do not. The wording differs slightly from that used in the thirteen countries using only one question.

The instrument used to collect census information in Brazil has three unique characteristics: (a) the use of a double negative in the wording of the question to measure "activity status," which makes the question difficult to understand; (b) the order used in listing the precoded answers, which offers as the first six alternatives all those of the economically inactive population; and (c) the confusing graphic presentation of the alternatives in the questionnaire. The accumulation of technical errors raises doubts about the validity, reliability, and comparability of these measurements.¹¹

¹⁰ Costa Rica, El Salvador, Haiti, Peru, Jamaica, Barbados, and Trinidad and Tobago.

¹¹ For a detailed analysis of the questions of the Brazilian census, see Catalina H. Wainerman and Zulma Recchini de Lattes, *El trabajo femenino en el banquillo de los acusados: La medición censal en América Latina* (Mexico City: Terra Nova, 1981), 86-89.

Whereas the Brazilian census questions may be too imprecise, Venezuela has carefully questioned women about their labor force participation. The structure of the instrument of data collection and the level of precision of the instructions included in the enumerator's manual resemble a household survey, in which the "activity status" is measured through a series of six questions.

In all the censuses of the region, except that of Peru, the item on "activity status" allows only one alternative for the answer. Given the fact that women often could answer two of the alternatives, the "active" category might receive positive answers more frequently if respondents were asked to select two categories—as with the census in Peru.

The analysis of the 1970s censuses reveals many other elements adversely affecting the validity and comparability of the measurement of the labor force. For example, in Cuba, although the investigation of the activity status was required for all persons ten years of age and older, the census instructions indicated that only men and women between the ages of seventeen and fifty-five could be classified as unemployed. The Costa Rican census suggested that persons over sixty-five years of age are economically inactive. In only some countries of the region, the instructions required differentiating by sex the people doing domestic chores. In the censuses of Costa Rica and Cuba, for example, men were to be only exceptionally classified in the category "domestic chores"; in the censuses of El Salvador, Haiti, and Panama, the definition of homemaker was applied only to *women* who carry out certain types of chores.

Specification for minimum amount of time worked

The minimum amount of time a person had to work in order to be considered "active" is related to the conceptual definition chosen for the "economically active population." The amount of time can range from full-time work to full-time plus part-time and occasional work. In the Latin American censuses of the 1970s, this concept was treated in a number of different ways. Six countries did not specify a minimum amount of time worked, nine countries collected information exclusively on full-time or nearly full-time workers, one country also included part-time workers, and the rest added even occasional workers (between as few as one and eight hours per week). This lack of a common definition constitutes a threat to the comparability of the measurement of the labor force among the countries of the region. This problem affects the measurement of women's labor force participation to a greater extent because, as has been repeatedly mentioned, part-time and occasional employment are much more frequent among adult women than among adult men.

Work-time measurements are also characterized by internal inconsistencies—this is especially true for the "unpaid family workers" category in

many countries of the region. Following international recommendations, most countries have specified a minimum amount of work time required to include a worker in this category. This amount, however, does not in most cases coincide with the minimum amount of time established for classifying a person as "economically active." In some countries, the minimum time required to be considered "active" is *less* than the minimum time required to be counted as an "unpaid family worker." For example, Colombia and Mexico require only one hour of work a week to be classified as "economically active," but fifteen hours a week to be considered an "unpaid family worker." In other countries, the amount of time needed for classification as "active" is vaguely defined (most or part of the week) but is well defined for "unpaid family worker."

In the census questionnaires, the question on "activity status" comes first, and the question on the employment status of those classified as economically active comes later. It is not clear (since there is no indication in the census instructions) what should be done when the minimum amount of time required to be considered an "unpaid family worker" is *longer* than that required to be considered "economically active." In other words, there is a problem when a person who is classified as "active" in the "activity status" question defines herself or himself as an "unpaid family worker" but does not satisfy the time requisite to be classified as such by the census enumerator. As women are much more frequently classified in this category than men, the distortion tends to be greater when measuring women's activity.

Quantitative evidence

In what follows, some population census results are compared with independent sources of data in order to provide quantitative evidence of the ineffectiveness of Latin American censuses as tools for measuring women's economic activity. Special care was taken that the conceptual definitions of the census were either similar to those of the independent sources or, if they differed, that the differences could be expected to give a relatively greater count of the economically active to the census (as would occur, for example, if the census time-reference period were longer). It was difficult to attain a perfect match of population defined in time and space, but, in the following examples, the universes are reasonably equivalent.¹²

Activity rates by sex calculated from census results were compared to activity rates calculated from household surveys for Colombia, Guayaquil

¹² The cases of Bolivia and Brazil are discussed in detail in Wainerman and Recchini de Lattes (114-25).

City in Ecuador, and the Northeast and São Paulo regions of Brazil; census activity rates for Bolivia were compared with those of an earlier demographic survey. In these five cases, the surveys were made using sampling procedures while the censuses covered the entire population. The surveys were taken over periods ranging between three and twelve months by a relatively small group of specially trained, remunerated interviewers; the censuses were taken in one day by many enumerators. It can be assumed that, as is usually the case in Latin America, the census takers received very little training and no remuneration for an imposed task. Moreover, in four of the five cases the main goal of the surveys was to measure the economic characteristics of the population, especially employment and unemployment.

The percentages of under-enumeration of the labor force by sex in the census, compared with the survey, are presented in table 1. For each case, some disaggregation is provided, either by urban or rural population residence, educational level, agricultural or nonagricultural activities, or for certain occupational status categories. Totals for women very clearly show that, relative to surveys, censuses underestimated economic participation by between 12 and 52 percent. In contrast, men's economic activity as registered by the censuses would have been only slightly underestimated. Negative figures for Bolivia (as well as for certain categories in the other cases) indicate that census activity rates for men were higher than survey activity rates. This suggests that survey results are incomplete and that, therefore, under-enumeration of economically active women in the census would be much greater than shown in the table.

The table also shows that census under-enumeration was higher in rural than in urban areas in Bolivia as well as in Colombia, was higher among women with only elementary education or no education than among those with at least a high school education in Guayaquil, was higher for agricultural than for nonagricultural activities in the São Paulo and the Northeast regions in Brazil, and was higher still among unpaid family workers (under-enumeration was over 80 percent in the two Brazilian regions) than among wage earners in these same areas. In other words, these measures confirm what the literature on women's labor force participation has so often suggested: population censuses underestimate the economic activity of women, especially the contributions of those engaged in agricultural activities (prevalent in rural areas), those working as unpaid family workers, and those women with little or no education. These figures also show that censuses not only under-enumerate the economic participation of these groups, but that they also under-enumerate the economic participation of women in urban areas and in nonagricultural activities, wage-earning women, and highly educated women (between 6 and 44 percent in the examples given in table 1, with the only exception of the capital of Bolivia). The figures for the São Paulo and Northeast regions also

TABLE I UNDER-ENUMERATION OF LABOR FORCE PARTICIPATION FOR WOMEN AND MEN (%)^a

	Women	Men
Bolivia, 1976:		
Capital	-3	-6
Other urban	6	-2
Rural	49	-2
Total	30	-2 ^b
Northeast region (Brazil), 1970:		
Agricultural activities	63	-10
Nonagricultural activities	44	21
Unpaid family workers	88	36
Wage earners	29	14
Total	52	4
São Paulo region (Brazil), 1970:		
Agricultural activities	68	-3
Nonagricultural activities	10	5
Unpaid family workers	84	48
Wage earners	9	0
Total	18	3
Colombia, 1973:		
Urban	7	-2
Rural	32	3
Total	12	0
Guayaquil City (Ecuador), 1974:		
No education or elementary education	34	15
High school or university education	16	-3
Total	27	7

SOURCES.—Bolivia: Instituto Nacional de Estadística, *Resultados del censo nacional de población y vivienda 1976*, vol. 2 (INE, 1978), table P 13; vol. 10 (INE, 1981), table P 13; and unpublished tables from the 1975 national demographic survey. Brazil (Northeast region): Fundação IBGE, *Censo demográfico: Nordeste: VIII Recenseamento Geral: 1970: Série Regional* (Rio de Janeiro: Fundação IBGE, 1973), tables 1, 21; *ibid.*, *Nordeste pesquisa nacional por amostra de domicílios: População; habitação; mão de obra; salário; instrução, 3er. Trimestre 1969* (Rio de Janeiro: Fundação IBGE, n.d.), tables 1.1, 3.2.2. Brazil (São Paulo region): Fundação IBGE, *Censo demográfico: São Paulo: VIII Recenseamento Geral: 1970: Série Regional* (Rio de Janeiro: Fundação IBGE, 1973), tables 1, 21; *ibid.*, *São Paulo pesquisa nacional por amostra de domicílios: População; habitação; mão de obra; salário; instrução, 3er. Trimestre 1969* (Rio de Janeiro: Fundação IBGE, n.d.), tables 1.1, 3.2.2. Colombia: Departamento Administrativo Nacional de Estadística, *XIV Censo nacional de población y III de vivienda* (Bogotá, 1975); and *ibid.*, *Encuesta nacional de hogares, Etapa 6* (Bogotá, n.d.). Ecuador: Instituto Nacional de Estadística y Censos, *III Censo de población, 1974, resultados definitivos, resumen nacional* (n.d.), tables 4, 14; and *ibid.*, *Encuestas de población y ocupación, 1975, área urbana, Quito y Guayaquil* (Quito, September 1976), table 14.

^aPercentages have been calculated by dividing the observed differences between activity rates based on surveys (a_s) and censuses (a_c) by the survey activity rates:

$$\frac{a_s - a_c}{a_s} \times 100$$

Activity rates correspond to ages twenty to sixty-four years old for Brazil, Bolivia, and Colombia, and ages twelve to fifty-nine for Ecuador.

^bBecause of rounding procedures and the very low proportion of the labor force in the capital, the average for the country has the same rounded value as the other urban and rural areas.

show that census under-enumeration is not exclusive to women; it is also high among men in the unpaid family worker category.

The findings for Latin America confirm that population censuses, as they stand, are not adequate instruments for measuring women's economic activity. The problem is not limited to Latin America in particular, nor to

developing countries in general.¹³ It is in developing countries, however, that the problem assumes greater proportions because of the prevalence of traditional economic activities that are frequently carried out in the home and not distinguished from domestic activities.

From the 1970s to the 1990s

The qualitative and quantitative analyses of the Latin American censuses of the 1970s have shown that they are not good instruments for measuring economic participation of women. UN Statistical Commission and IASI recommendations for the 1970 round of censuses contribute to the problem, as in the case of those countries that established a different minimum work-time requirement for unpaid family workers and the other categories of the economically active population. At the time those recommendations were made, there was no particular concern with the quality of the statistics on women. The 1980s recommendations acknowledge the need for improvement¹⁴ but do not make any specific suggestions for changing the definition of work or give any recommendations for the translations of concepts into information-gathering techniques.

What can be expected for the future? A report prepared for the International Conference of Labour Statisticians, whose recommendations will probably guide the censuses of the 1990s, recognized "the need to reexamine the existing concepts and methods so as to improve the conceptualization and measurement of the participation of women in economic activities both in and outside the home."¹⁵

The conference report introduced some changes in the basic concepts. It expanded the definition of the economically active population to include production for one's own consumption. For example, the definition of "self-employment" explicitly includes the work of people who produce goods for their own household consumption "if such consumption comprises an important contribution to the total consumption of the household" (emphasis added).¹⁶ It makes specific mention of people engaged in

¹³ See, e.g., the analysis of the 1950 U.S. census in G. Bancroft, *The American Labor Force: Its Growth and Changing Composition* (New York: John Wiley & Sons, 1958).

¹⁴ United Nations (n. 8 above), 93, par. 2.190.

¹⁵ International Labor Organization, *Statistics of Labour Force, Employment, Unemployment and Underemployment*, Report prepared for the Thirteenth International Conference of Labour Statisticians, Geneva, October 1982, Report 2, ICLS/13/II (Geneva: International Labor Organization, 1982), 3, par. 12.

¹⁶ "Resolution concerning the Statistics of the Economically Active Population, Employment, Unemployment and Underemployment," *Thirteenth International Conference of Labour Statisticians, Resolution I* (Geneva: International Labor Organization, October 1982), p. xii, par. 9.(6). This is reiterated in many paragraphs of *Resolution I*. An explicit definition of the production of economic goods and services is included for the first time, to serve to define the economically active population (xi, par. 5).

domestic activities (homemakers) and recommends that they be classified as economically active if they "at the same time were in paid employment or self-employment."¹⁷ It also eliminates the minimum time requirement to classify the unpaid family workers as employed.¹⁸

Despite these changes, the new resolutions continue to be conceptually vague, and no indications are given on how to translate the concepts into measurement-gathering instruments. If the international organizations responsible for census recommendations for the 1990s do not introduce substantial modifications, the prospects for improving censuses in the 1990s are not good.

It is critically important that researchers, planners, and census bureaucracies become aware of the low credibility of these census measurements. It is essential to recognize the need and to take actions to modify the definition of work, at least to reflect women's "extradomestic" work. This means taking into account specific characteristics of that work, rather than trying to measure it through instruments applicable to a behavior model typical of men in developed economies. It is necessary to become aware that designers and collectors of statistics, and the individuals themselves, tend to attribute the condition of worker to the adult man and that of homemaker to the adult woman. To improve the census measurement of women's economic contribution is a challenge that must be faced. It is necessary to carry out experiments to test different ways of obtaining the information. There is no doubt that the ability of censuses to measure women's contribution to the economy can be greatly improved. Census operations are too costly to produce limited and unreliable results on the measurement of economic activity of about half of the world's adult population.

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¹⁷ *Ibid.*, xii, par. 9.(8).

¹⁸ *Ibid.*, xii, par. 9.(5).