

Women in the Indian Working Force: Trends and Differentials

Pravin Visaria

Kunda Datar Memorial Lectures, 1993

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About the Author

Dr. Pravin Visaria, formerly Director of the Gujarat Institute of Development Research (GIDR), Ahmedabad, and currently Director of the Institute of Economic Growth, Delhi is a well-known Economist-Demographer.

Born in 1937, Dr. Visaria received his Masters degree in Economics from the University of Bombay in 1958 and his Ph.D. in Economics from Princeton University, USA in 1963. He returned to India in 1963 to become first a Reader and later a Professor at the Department of Economics, University of Bombay. He held the positions of Visiting Scientist at Harvard University, Visiting Professor at the University of Pittsburgh, Visiting Research Staff at Princeton University, Research Associate at the University of Pennsylvania and Visiting Staff Associate at the Population Council, New York at different times between 1962 and 1972.

Between 1973 and 1980, he served as Economist at the Development Research Centre, World Bank and worked on the joint ESCAP-IBRD project on Evaluation of Data on Income Distribution. He returned to India in 1980 and was Professor of Demography at the Sardar Patel Institute of Economic and Social Research, Ahmedabad before moving to GIDR as its Director in 1983. He is currently Chairman, Governing Council, National Sample Survey Organisation. He is also a member of the Steering Group on Employment Policy for the Ninth Plan, and holds positions on the Governing Bodies of several national institutions.

Dr. Visaria is a well-known researcher in the field of Population Studies and Demography and has written extensively on the subject. He has contributed to several academic journals of national and international repute and has written and edited several books on the problems of employment and labour force participation, mortality and fertility, urbanisation, migration, health care, poverty and demographic transition in India.



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Foreword

The Kunda Datar Memorial Lectures for the year 1993 were delivered on January 27 and 28, 1994 by Dr. Pravin Visaria, a distinguished Demographer and expert in matters relating to employment and population policies. This was the sixth in the series since the Kunda Datar Memorial Lecture Series was instituted several years ago with the help of a generous endowment made by Shri B.N. Datar, a well known Labour Economist, who spent most of his professional career in the Ministry of Labour and the Planning Commission as the senior-most technical executive and advisor.

These lectures on 'Women in the Indian Working Force: Trends and Differentials' have been written by Dr. Visaria to provide a balanced but exhaustive assessment of the participation of Indian women in economic activities, based on a thorough review of the available data and evidence of the last several decades. His intimate knowledge of the data base and his active participation in the recurrent debates on the subject make these lectures most fruitful in obtaining a proper perspective on the issues involved.

Dr. Visaria argues that the share of self-employment in prospective work opportunities is unlikely to decline in the years ahead, and, in fact, may rise owing to the slow growth of regular employment in India. He further argues that the growth of employment is likely to be higher in the service sector, where women find a comparative advantage, and hence, female worker participation rates are unlikely to decline in the years to come.

We are thankful to Dr. Visaria for agreeing to deliver the Sixth Kunda Datar Memorial Lectures. The Institute is happy to publish these thought-provoking lectures and hope that they will provide the necessary perspective in the formulation of policies on gender issues.

June 1997

D.C. Wadhwa
Director



Preface

This monograph presents an extensively revised version of my Kunda Datar Memorial Lectures for 1993, delivered at the Gokhale Institute of Politics and Economics, Pune, during January 1994.

While I had never met Kundatai, I have known her illustrious husband, Shri B.N. Datar, for over 30 years. I first met him at the First Asian Population Conference held at Delhi during December 1963. Datarji was then chief of the Labour and Employment Division of the Planning Commission. Several subsequent opportunities for mutually stimulating interaction have made Datarji a venerable friend of the family.

I was privileged to attend the first Kunda Datar Memorial Lecture(s) delivered by late Professor D.R. Gadgil at the Delhi School of Economics in early 1964. Professor Gadgil's lecture had dealt at length with the varied evidence relating to the participation by Indian women in economic activities, or women in India's working force. Professor Gadgil had examined the issues in the context of the results of the 1961 Census, which had published its "final population totals" including the data on workers and their distribution by nine "industrial categories" in September 1962. During the three decades and a half that have elapsed since then, the level of participation in the working force by Indian women has continued to be a vexed issue. Having participated in the recurrent debates on the subject, I have reviewed in these lectures the extensive evidence that has become available on the subject during the last several decades.

The association between participation of a woman in economic activity and her decision-making power or autonomy, etc., is also an important issue. However, this latter complex issue requires multi-disciplinary approach. Dr. Leela Visaria, a sociologist-demographer, has studied this important question in the course of a four-district survey of 13,200 households in Gujarat, conducted during 1989. Her paper on the subject has been released as GIDR Working Paper No. 50.

Several comments of late Professor V.M. Dandekar and other friends after the lectures have stimulated some further work. The gentle reminders of Professor D.C. Wadhwa, Director of the Gokhale Institute of Politics and Economics, to submit a publishable typescript have been tempered by a kind understanding of the delays. I am grateful to him and to all the friends at the Gokhale Institute.

Some friends at the GIDR have contributed a great deal to the preparation and revision of the contents of my lectures by checking the data, preparing the graphs and reviewing the discussion. They include Paul Jacob, Anil Gumber, Jignasu Yagnik, Bharat Adhyaru, Upendra Upadhyay and Arti Dave. Girija, Sheela and Vasanthi have ably handled the word-processing work. While placing on record my deep appreciation of the varied help of these colleagues, I assume full responsibility for all errors facts or interpretations.

Pravin Visaria

Women in the Indian Working Force: Trends and Differentials

Pravin Visaria *

During the three decades and a half since professor D.R. Gadgil had examined at length varied evidences relating to the participation by Indian women in economic activities, or women in India's working force, based on 1961 Census data, the level of participation in the working force by Indian women has continued to be a vexed issue. Based on the outcome of the recurrent debates on the subject, this paper reviews the extensive evidence that has become available on the subject during the last several decades. In most discussions relating to helping the Indian women to achieve equality with men, considerable emphasis is laid on enabling them to gain independence from their spouses, sons and siblings or parents by providing opportunities for participation in income-earning activities. An improvement in the working conditions and wages and salaries of women workers is also a high priority concern. The review of the necessary data and evidence is attempted in this paper with a view to obtain a proper perspective on these issues.

I The Context

India is one of the few countries of the world with an excess of males or a deficit of women in its population.¹ This anomaly in the sex ratio of the population has been the theme of recurrent debate and discussion in the country at least since the beginning of the Census counts in late 1860s. Yet, the quantum of analytical research on the subject is grossly inadequate. The growing interest in raising the status of Indian women and in encouraging gender equality should facilitate more extensive research on the subject.

In most discussions relating to helping the Indian women to achieve equality with men, considerable emphasis is laid on enabling them to gain independence from their spouses, sons and siblings or parents by providing opportunities for participation in income-earning activities. An improvement of the working conditions and wages and salaries of women workers is also a high priority concern. To obtain a proper perspective on these issues, it is necessary to review thoroughly the available data. The following discussion attempts such a review.

While undertaking this review, I have no illusion that our data base on this (or any other) theme is perfect or flawless. There are no perfect statistics anywhere, but

* Presently Director, Institute of Economic Growth, Delhi and formerly Director, Gujarat Institute of Development Research, Ahmedabad. The Paper presents an extensively revised version of the Kunda Datar Memorial Lecture delivered at the Gokhale Institute of Politics and Economics, Pune during January 1994. Several comments of late Professor V.M. Dandekar and other friends after the lecture have stimulated some further work. Some friends at the Gujarat Institute of Development Research have contributed a great deal to the preparation and revision of the contents of the lectures. They include Paul Jacob, Anil Gumber, Jignasu Yagnik, Bharat Adhvaru, Upendra Upadhyay and Arti Dave. Girija, Sheela and Vasanthi have ably handled the word processing work. While placing on record my deep appreciation of the varied help of these colleagues, I assume the full responsibility for all errors of facts or interpretations.

¹ According to the recent population Censuses of India, the number of males per 1,000 females in the country has ranged between 1,063 (in 1961) and 1,079 (in 1991). The underlying factors have been discussed at length in: Visaria, Pravin, *The Sex Ratio of the Population of India*, Census Monograph No. 10, Office of the Registrar General, New Delhi, 1971.

particularly in a developing country. The analysts must necessarily sift data and evidence and arrive at reasonable inferences. The availability of more than one source of data on most themes is the great asset and advantage of the Indian statistical system. Unfortunately, many users become impatient; and partly because of the carelessness of a few users and resulting unnecessary controversies, many producers of official statistics become unduly reserved and withdraw into a shell. A reversal of these tendencies is vital for a vibrant democratic system and for monitoring the effect of recent changes in the Indian economic policies. To move in this direction, we need thorough and balanced discussions on various issues. This revised text of my lectures is an attempt to provide a balanced but exhaustive assessment of the participation of Indian women in economic activities.

2 Major Sources of Data

The three main sources of data on the subject of participation of Indian women in economic activities are: (a) the decennial Censuses, (b) successive rounds of the National Sample Survey (NSS) beginning with April-September 1952, and (c) small-scale socio-economic surveys that portray the situation prevailing in specific local areas. The latter also help to generate or test varied hypotheses on the basis of in-depth analysis or provide evidence on the processes underlying the changes suggested by large-scale surveys. From among these three broad sources of information, I have concentrated on the first two in these lectures.

For measuring the level of employment or participation in economic activities, it is advantageous to consider the indices such as Worker-Population Ratios (WPRs) or the Labour Force Participation Rates (LFPRs) in percentage terms. (The term labour force includes not only the workers but also the unemployed or persons seeking and/or available for work, including the new entrants or those looking for work for the first time. When the usual status concept is used, the difference between the two terms - WPRs and LFPRs - tends to be small, particularly in rural areas). These ratios or rates have an advantage over the alternative of sex ratio of workers in particular or specified economic activities insofar as the latter sex ratios can have a wide range of variation even with small numbers. The WPRs or the LFPRs can be estimated for different sex-age groups and/or for the total population with specified socio-economic characteristics.

Much of the following discussion relating to the WPRs relates to the crude rates or ratios, which do not make any allowance for differences in the age composition of the population in various categories of selected variables. However, the age-specific WPRs by sex are also discussed. As a summary measure of these age-specific WPRs, I have used the concept of Gross Years of Working Life (GYWL) or the average number of years a cohort would spend in work, if it is not subject to mortality over the specified ages and if it experiences the observed age-specific work force participation rates.² GYWL represents a summary index of the age-specific work participation rates, with each observation assigned a weight equal to the number of years in successive age intervals.

² United Nations, 1962, Population Studies, No. 33, *Demographic Aspects of manpower: Report I. Sex and Age Patterns of Participation in Economic Activities*, New York, pp. 17-18.

3 Significance of the Estimates of Workers

Economists identify labour as one of the four key factors of production, the other three being land, capital and organisation or entrepreneurship. This list can be shortened to three, if entrepreneurship is seen as a special category or type of labour or human resources. In the developed western economies, which faced steep declines in the rate of population growth during the 1930s, labour supply was sometimes seen as a constraint on the realisation of the production potential of the economy. In the underdeveloped countries, in the early 1950s, the economists were concerned for some time with tapping the savings potential of disguised underemployment.

Beginning with the Second World War, the entry of a growing number of women in the work force has imparted a certain degree of elasticity to the labour supply in the western economies. Over time, the social scientists, as well as, social workers have felt increasingly concerned about the conditions under which women enter the work force, the working conditions of women workers, and the implications of their work for the rearing and growth of children. It is difficult to arrive at a consensus on these issues. Also, the dynamic situation and the large spatial differences make it a difficult area of study and research. Yet, in the words of a leading economist, late Professor Frank Graham of Princeton University, it is difficult things that are beautiful. I have tried to survey the recent data on the Indian scene on the subject of women in the Indian working force, without attempting a bibliographic review of the subject.³

There is no doubt that the percentage of population in the labour force provides only a first approximation to the quantum of labour supply. Intensity of labour input indicated by the length of the work day or work week, and the availability for only part-time (as opposed to full-time) or seasonal (as opposed to round the year) work, as well as, the skills, experience, education, aptitudes and health of workers, as well as, their commitment or motivation are among the prime determinants of the productive strength or growth potential of an economy. However, many of these factors or variables are difficult to quantify; and, therefore, the social scientists generally overlook them and concentrate on the number of persons in the labour force. A study of the working force also needs to examine the occupational structure and the distribution of workers by industry,⁴ rural-urban residence and region or spatial location. Changes in the industrial, occupational and status distribution of workers reflect the changes in the demand for labour or the number, character and location of employment opportunities including both wage or salaried employment and self-employment.

All these economic factors operate within a demographic, institutional and cultural framework which influences the size and growth of labour supply, as well as, its distribution and characteristics. Any attempt at measurement of a phenomenon in human society is necessarily guided by a certain framework of reference. Measurement of working force or labour force is influenced by the economists' perception of what

³ See Visaria, Pravin. 1976. "Employment: A Trend Report" in: *A Survey of Research in Economics*, Vol. II, *Macroeconomics*. (A Project Sponsored by the ICSSR). Bombay: Allied Publishers, pp. 125-246. See also, Umi, Jaemol, 1992. *Women's Participation in Indian Agriculture*, New Delhi, Oxford and IBH Publishing Co. Pvt. Ltd.

⁴ The term "occupation" has often been used as synonymous with "industry". But the two terms are distinct. Occupation of a worker relates to the nature of work performed by him; his industry is based on the nature of goods and services produced by the enterprise in which he works. In other words, occupation of a worker depends on what he does; his industry depends on where he does what he does.

constitutes production. The estimates of labour force have to be related to the measures of national product or output based on the System of National Accounts (SNA) or the United Nation System of National Accounts, which influences also the national practices or conventions.⁵ It focuses attention mainly on the production of goods and services required to satisfy the needs of the population, that pass through exchange: for the agricultural sector, however, the national accounts consider the value of all goods and services produced (including the processing of primary products) irrespective of whether they were exchanged or consumed by the producing households.

The working force includes not only the wage and salary earners but also the own-account workers and employers who work for profit, and persons who work in familial income-generating activities or enterprises without receiving any pay. The latter are called the unpaid family workers or helpers and their enumeration often proves most difficult in surveys or Censuses. As will be noted below, they undertake multiple activities, whose reporting and recording prove a challenging task.

The two terms, labour force and the working force, used above, differ inasmuch as the former includes the unemployed persons, whereas, the latter does not. Given the widespread interest in the subject, the key statistics on the subject of unemployment are also reviewed below.

4 Concepts and Definitions: A Journey Down the Memory Lane

Forty two years ago, when I began to study Economics, the discussion used to focus on the proportion of India's population dependent on agriculture or other sectors/activities.

The idiom of discussion changed after 1961, when we began to focus on the sectoral or industrial distribution of workers and not on that of the population. Some interest in the old approach is visible at times: to meet this demand, the NSS often provides estimates of various dimensions of the level of economic activity according to the type of household, identified on the basis of the major or main source of income of the household. The available data on the subject are discussed below.

(a) Approach and Definitions in Censuses

As a graduate student at Princeton, I had learnt during 1958-1960 that the Indian Censuses upto 1951 had attempted to gather data on the "means of livelihood" or "means of subsistence". Persons not working but receiving an income or earners were grouped along with workers. The three Censuses of 1901, 1911 and 1921 had tried to record the principal and subsidiary means of subsistence of "actual workers". The subsequent three Censuses of 1931, 1941 and 1951 had sought to distinguish between (a) earners or self-supporting persons and those who were (b) working or earning dependents. For the former, both principal and subsidiary occupations were recorded; whereas for the latter, information on only their principal occupation was elicited and it was recorded as their secondary occupation. (Occupation of the person, on whom the earning dependent depended, was recorded as the principal means of livelihood of the dependent). The 1941 Census data could not be tabulated because of the wartime economy drive. (The schedule canvassed by the 1941 Census was ambitious enough to ask persons who were not employed but were in search of it about the duration of search.

⁵ United Nations, 1993. *System of National Accounts*, New York. The revised SNA has changed many of the practices of the earlier SNA.

Unfortunately, we shall never know how many unemployed persons were enumerated by the Census).

During the 1950's, there was an intensive review of all the Census data, partly at the Indian Statistical Institute by two eminent visiting scholars, Alice Thorner and late Daniel Thorner. It began to be recognised that for monitoring the impact of socio-economic development and planning on the structure of the working force, it was necessary to move away from the concept of dependence on different sectors of the economy and to ascertain the activities of the population. There was also a recognition of the fact that a question to sort the population into two groups of workers and non-workers could prove disastrous and may lead to an underestimation of the working force. (Such underestimation was indeed evident in the 1951 Census itself, particularly in rural India in the three southern States of Andhra Pradesh, Tamil Nadu or Madras and Mysore, but to some extent also in Assam, Bihar, Bombay, Orissa, and West Bengal).

The concepts and definitions adopted by the 1961 Census have been documented in various reports and have also been discussed by many persons, including the present author. Briefly, in seasonal activities such as cultivation, animal husbandry, dairying, household industry, etc., "some regular work of more than one hour a day throughout the greater part of the working season" was the criterion to classify a person as a worker.

In non-seasonal or regular activities such as any trade, profession, service, business or commerce, employment "during any of the 15 days preceding" the day of enumeration formed the basis upon which a person was counted as a worker. (This reference period was shortened to one week in the 1971). The unemployed "seeking work" were to be so recorded in the two categories - "employed before" and "seeking work for the first time" - as part of the eight categories provided for the classification of non-workers, although the term "seeking work" was not explained in any detail. (The attempt to enumerate the unemployed was abandoned in the 1971 Census but was resumed in the 1981 Census. The latter asked persons who had not worked at all or during major part of the previous year, whether they had been seeking/available for work).

Note that the reference period for enumerating seasonal workers in 1961 was far from specific. According to B.R. Kalra, who was a Research Officer in the Office of the Registrar General during the 1960s, the words "regular work of more than one hour a day" were inserted "to cut out trivial help" because "in rural parlance", more than an hour "usually means 'a long time' or substantial period". Irrespective of the accuracy of this evaluation of rural parlance, it seems fair to interpret the instruction as an attempt to collect data according to the "usual status" approach, which seems to be more appropriate for the enumeration of the economically active in rural areas of underdeveloped countries than the often-recommended labour force approach with a short reference period.⁶

As for the industrial classification of workers, the questions on the Census slips for each individual sought to classify a person as working as (i) cultivator, (ii) agricultural labourer, (iii) in household industry or (iv) in activities other than (i), (ii), or (iii). While, according to Kalra, "no priority was implied or actually indicated" in the order of

⁶ Kalra, B.R., "Comparative Chart of Concepts and Definitions Relating to Economic Questions, 1901-1961", Appendix I to a "Note" by A. Mitra, in: Census of India, 1961, Vol. 1, *India, Part II-IX(i), General Economic Tables*, New Delhi, 1965, pp. 18-20.

questions, and "all the four questions had to be severally asked of every person".⁷ the experience of data collection in various parts of the world would suggest the order of questions to be a variable influencing the data, particularly in marginal cases. The essentially honorary enumerators employed by the Census cannot be expected to repeat all four questions.

The 1961 Census data on WPRs showed a markedly higher level of female participation in economic activities, particularly in rural areas, than the (adjusted) estimates based on the 1951 Census. It was argued at the time that the 1961 Census had been too liberal in including even "nominal" workers among the economically active persons; and that its approach needed to be modified. A modification suggested by a highly respected senior statistician (Professor D.B. Lahiri) at a meeting held in the Planning Commission (while Professor D.R. Gadgil was its Deputy Chairman) was accepted without any further pre-test. It required a distinction between (a) persons whose "main" activity was work and (b) others for whom work was a secondary activity, undertaken in addition to some other non-economic activity.⁸ I was abroad during May 1969 when the meeting was held in the Planning Commission. When I learnt about the new proposal on my return to India, I had cautioned the-then Census Commissioner and Registrar General, late Shri A. Chandra Sekhar against the change. My caveat is on record in the report of the (Dantwala) Committee of Experts on Unemployment Estimates (for which I had functioned as a Technical Consultant). In a chapter entitled "the major sources of data on employment and unemployment: suggestions for improvement", the (Dantwala) Committee has considered the pros and cons of the proposed approach of the 1971 Census. It has noted that the persons reporting work as a secondary (and not main) activity were expected to be part-time workers. They could be grouped with or be kept distinct from the "main" workers according to the objectives of the analysis. The Committee cautioned that "it is, however, possible that the enumerators might try to lighten their workload by classifying a person as "non-worker" and overlook asking the questions about the secondary work performed by such a person. Due care must be taken to prevent such omission".⁹ The discussion reflected my fears, and unfortunately, it proved prophetic. The enumerators (erroneously) considered the recording of secondary economic activity to be of secondary importance; and the 1971 Census reported only one per cent of the total population and 2 per cent of females in the country to be "secondary workers".

Regrettably, the 1981 Census could not quite depart from the framework of the 1971 Census. It tried to make two sets of estimates of the level of participation in economic activity in the country. One set of estimates was to be comparable with the 1961 Census figures and another with the 1971 Census figures. For this purpose, it advised the enumerators first to record (a) whether the person had worked "any time at all last year" and (b) also what his "main activity" had been during the previous year. The former question was expected to provide a full inventory of all persons participating in economic activity at any time during the previous year in the country. Persons who

⁷ *Ibid.*, p. 6.

⁸ Census of India, 1971, Paper 1 of 1971-Supplement, *Provisional Population Totals*, New Delhi, 1971, pp. 27-28.

⁹ Government of India, Planning Commission, 1970, *Report of the Committee of Experts on Unemployment Estimates*, New Delhi, p. 22 (para 4.4).

had worked for some time during the previous year, but whose "time disposition" did not indicate their having spent time mostly in "work" were classified as "marginal" workers.

Prior to the 1991 Census, there was considerable concern among the Indian scholars and policy-makers, particularly feminists, about the under-count of female workers by the 1971 and the 1981 Censuses. However, the key decision-makers chose to avoid any serious break with the 1981 Census framework. In my opinion, it was a preference for comparability with the recent past instead of for credibility. The Technical Advisory Committee for the 1991 Census, set up by the Registrar General, had recommended that the question relating to work during the previous year, on the individual slip, should explicitly note and remind the enumerators that the workers should include "unpaid family helpers on the family farm or in the family enterprise". The Census was also preceded by a campaign on the television and other mass media that the economic activities of women should not be overlooked at the time of the visit of the enumerator. Of course, these efforts could not overcome the main weakness of the Census that the enumeration work has to be conducted through more than a million enumerators (who have little interest in their assignment) on the basis of only a token honorarium (which, in urban areas, barely covers the additional travel and incidental costs). We shall evaluate the outcome of these special efforts by comparing the worker-population ratios reported by the 1991 Census with the results of the 1981 Census and the surveys conducted by the NSS.

Looking back, the Indian efforts at collecting data on workers through Censuses have shown a surprisingly consistent interest in distinguishing between workers with a high and a low degree of attachment to participation in economic activity. (No sentimental or emotional element is implied in the term attachment used here). The use of the term "marginal workers" was probably unfortunate. As will be shown below, a majority of the marginal workers happen to be females. It has led many feminist scholars to complain that the female workers are being "marginalised", although as far as one can see, this is no more than a change in labels from "secondary" to "marginal". The NSS has steadfastly avoided use of the terms "main" and "marginal" and has preferred to distinguish between "principal" and "subsidiary" statuses of individual respondents.¹⁰

(b) The NSS Framework

After considerable experimentation during the early 1950s, the Indian National Sample Survey had standardised its data collection relating to labour force issues by adopting a reference period of the week preceding the date of interview. (The "week" had become the recommended reference period according to the "standards" adopted by the Central Statistical Organisation in 1961).¹¹ The estimates of rural unemployment based on this approach were found so low that in 1963, late Professor P.C. Mahalanobis, the-then Statistical Adviser to the Government of India, recommended discontinuation of the collection of such implausible data. As a result, the rural labour force surveys were

¹⁰ If any NSS report has used the term "marginal workers", that has been a slip or a lapse in editing. The schedules or the instructions have not used the term.

¹¹ Government of India, Central Statistical Organisation (Department of Statistics), 1961. *Standards for Surveys on Labour Force, Employment and Unemployment*, New Delhi.

given up after 1966-67. The Indian Planning Commission then appointed a Committee of Experts on Unemployment Estimates, which submitted its report in March 1970. The Committee recommended simultaneous collection of information on the economic activities of the population in terms of their usual status (to be ascertained by asking a question about the activities of the 365 days preceding the date of interview) and the current activities or the activities of the week preceding the date of interview.

Questions on the usual status were expected to ensure a comprehensive count of the economically active population. The usual industry, occupation and status (or class of worker) would help to identify the characteristics of the usually employed persons who might be unemployed or outside the labour force during the week preceding the survey. As a result, the association between (current) unemployment and the characteristics of (usual) employment on the one hand and the living standard of the respondent household would also be understood better. The continued collection of data on current activities would ensure comparability of the Indian statistics with those of the rest of the world, as well as, with those of the earlier labour force surveys conducted in India.

In addition, the Committee highlighted the fact that the priority rule adopted in labour force surveys leads persons working on even one day of the reference week to be classified as employed. Similarly, the status of unemployment receives priority over that of being outside the labour force (if a person reports himself or herself to be unemployed on any one day of the reference week and as outside the labour force during the rest of the week; the priority rule leads to the person being classified as unemployed in such a case). However, even some work on any day of the week would lead to the classification of the latter as employed. The Committee, therefore, recommended collection of the activity data separately for each day of the reference week in order to capture underemployment within the reference week of those classified as employed because of the priority rule.

When these recommendations were being discussed, it was argued that we could logically extend the collection of activity data from each day to each hour of the reference week. The unit of analysis could be person-hour rather than person-day. The basic validity of the argument was accepted, but the difficulties of collecting dependable data for each hour from a large number of households precluded the adoption of the implied suggestion. (Only case studies on a limited scale, sometimes called time-use studies, can collect hourly data on activities of selected individuals). In fact, the respondents to questions on hours worked during the reference week, asked in several Rounds of the NSS, typically provided a range (such as two to four, four to six, etc.) and the investigator had to choose either the mid-point of the range or one of the two figures. The problem is inherent in the conditions of work of the self-employed or unpaid family helpers, who are not guided by any fixed hours of work in deciding their activities. This feature of the situation was considered by the NSS also in framing the procedures to record the activities pursued on each day of the reference week. Work for less than four hours has been recorded as a half day and work for more than four hours has been recorded as a full day. During the 1987-88 survey, an attempt was made to record also whether the respondent had worked for only 1-2 hours in the reference week (i.e., nominal work), but not many persons reported nominal work.¹²

¹² It is not clear whether the concept of nominal work was communicated adequately to the investigators.

In implementing the recommendations of the Expert Committee in the 1972-73 survey, some misunderstanding had led the usual status to be defined almost in terms of the gainful worker approach along with the priority rule. This procedure was changed in 1977-78 and since then, the major activity of the reference year (i.e., being employed, unemployed or outside the labour force) is recorded as the usual activity. However, to ensure comparability with the 1972-73 survey, the subsequent surveys have also ascertained whether a person classified as unemployed or outside the labour force in terms of his or her usual activity had undertaken any gainful work as a subsidiary activity. The same basic approach has been adopted in the four quinquennial surveys of 1977-78, 1983, 1987-88 and 1993-94. Conceptually comparable estimates are, therefore, feasible for four points of time. However, the discussion in this monograph is limited to the data available from the surveys up to 1987-88. (The 1993-94 data are still being processed at the time of writing of this monograph).

5 Crude Worker Population Ratios

For India as a whole and its major States (as well as some cities), Office of the Registrar General has worked out the worker-population ratios (and the nine industrial category distribution of workers) by sex from the Censuses of 1911-1951 for comparison with the results of the 1961 Census.¹³ These ratios are called crude insofar as the comparisons do not take account the age composition of the population. Unfortunately, the earlier Census tables did not distinguish between rural and urban areas; and therefore, rural-urban WPRs cannot be estimated for the pre-Independence period.

(a) Broad Trends, 1911-1991

Table 5.1 summarises the crude WPRs based on the 1911-1991 Censuses and also the estimates based on the four quinquennial surveys of the NSS between 1972-73 and 1987-88. Estimates are shown also in Figure 1.

It has been argued sometimes that the 1961 Census had reported one of the highest WPRs; and the subsequent lower WPRs should not, therefore, be rejected. This argument is not valid. The 1961 Census estimates of WPR were not really higher than those provided by earlier Censuses. The WPRs have declined even between 1911 and 1961; and some decline can be expected to continue because of the rising school - attendance ratios and the associated classification of children in the age group 5-14 as non-workers (rather than as workers). (This issue will be discussed again below when I turn to age-specific worker-population ratios). Besides, it would be a serious mistake to brush aside the evidence provided by four large quinquennial surveys, conducted by well trained investigators under careful supervision that do not corroborate the sharp decline in the female WPRs suggested by the Censuses of 1971 and 1981.

Table 5.2 attempts to highlight the rural-urban differences in the crude worker-population ratios estimated by the four quinquennial surveys of the NSS and the corresponding data from the population Censuses conducted during 1951-91, separately

¹³ See: Census of India, 1961. Paper No. 1 of 1967. *Workers from 1901/11 to 1961 by States and Union Territories and by Cities (Subsidiary Tables B-1.6 and B-II. 3)*. Office of the Registrar General, New Delhi. Subsequently, after the separation of Haryana from the former Punjab and the revision of the boundaries of Himachal Pradesh, the Census tables for the newly-reorganised areas were recast to facilitate comparative studies. See: Census of India, 1961. Paper No. 1 of 1969. *General Population Tables and Primary Census Abstracts of Reorganized States of Punjab and Haryana and Union Territories of Chandigarh and Himachal Pradesh*, New Delhi.

by sex. It also includes estimates based on the 9th Round of the NSS conducted during 1955, when the usual status concept was used. Results are also shown in Figure 2.

As noted earlier, the estimates are based on the usual status concept; the NSS estimates include both principal and subsidiary workers and the Census estimates cover both main and secondary or marginal workers. The broad comparability of the recent survey-based WPRs with those of the 1961 Census confirms that the declines in these ratios for females suggested by the 1971 and the 1981 Censuses were spurious and not real. The alleged invisibility of the work of women is, therefore, a serious problem only if one does not know about or chooses to ignore the NSS data. The survey data together suggest a reasonable stability since the early 1970s in worker-population ratios for rural males around 54 per cent, for rural females between 32-34 per cent, for urban males between 49-51 per cent and for urban females between 13-15 per cent. The worker-population ratios for the total population of the country have been stable around 41-42 per cent.

The basic reason underlying the adoption of the usual status approach was to avoid or to minimise the effect of transient factors such as scarcity or drought on the estimates of the level and pattern of employment. This goal has indeed been achieved. It is not just hindsight based on actual estimates, but an *a priori* expectation that has been confirmed by the stability of female WPRs based on the principal usual status even for rural areas. (The estimates have been 24.8 per cent both in 1977-78 and 1983 and 24.5 per cent in 1987-88.)

(b) Workers in Terms of Principal or Main Activity

The Census estimates of the "main" workers can be compared with the "principal" workers covered by the NSS. The marginal workers of the Census can be compared with the estimates of subsidiary workers provided by the NSS.

Table 5.3 shows the Census estimates of percentages of main workers and the NSS estimates of principal workers by sex and rural-urban residence for the period 1977-78 to 1991. The Census estimates of main WPRs for males appear very close to the NSS-based principal WPRs. For females, the 1991 Census has reported higher estimates of the proportions of main workers than the 1981 Census. Yet, even the 1991 Census estimates are substantially lower than the NSS estimates for the 1980s. The same pattern is observed in both rural and urban areas.

Overall, given the broad similarity of the NSS-based estimates of worker-population ratios relating to female principal workers in three large surveys, conclusion is inevitable that both the 1981 and the 1991 Censuses have under-estimated the proportions of "main workers" among females. The extent of underestimation seems to have been less in 1991 than in 1981; the 1991 values for both rural and urban areas are about 18 to 19 per cent higher than those for 1981. Despite this welcome improvement, which differs between States or regions, the female WPRs, including both main and marginal workers, reported by the 1991 Census, remain significantly lower than those based on the principal and subsidiary workers surveyed by the NSS in its large quinquennial surveys of employment and unemployment since 1977-78.

(c) Marginal or Subsidiary Workers

The marginal or subsidiary workers are a more important group among females than among males; they account for almost one-fourth of the female work force. Therefore,

Table 5.4 shows the estimates of marginal workers among females in India, by rural-urban residence. Evidently the estimates of subsidiary or marginal workers by the NSS or the Censuses have been quite similar for rural areas; but for urban areas, the corresponding estimates show a large relative difference. Both the 1981 and the 1991 Censuses have enumerated about one per cent of urban women as marginal workers, whereas, the NSS has generally estimated about three per cent of them as subsidiary workers. The absolute difference between three and one percentage points is small enough to be attributable to chance factors, although scholars generally expect that the Census-based estimates would be close to the true value. The real problem, however, is one of non-sampling errors or biases which cannot be removed, particularly in a massive operation such as the Census.

The proportions of female subsidiary workers may fluctuate more than those of principal workers, probably in response to the availability of work opportunities in the economy. The three surveys of 1977-78, 1983 and 1987-88 have reported 8.3, 9.2 and 7.8 per cent, respectively, of rural females as workers in terms of their subsidiary activity. Given the large sample of nearly 100,000 rural households surveyed in each of the three surveys, even these small observed differences are statistically significant. However, wide fluctuations in female WPRs of the order of 5.6 and 6.0 percentage points (or 16 and 36 per cent) in rural and urban India respectively, between 1987-88 and 1991 (shown in Table 5.2) seem unlikely. Therefore, it would be a mistake to use the 1991 Census data without evaluating the differences between them and the corresponding estimates provided by the NSS. The latter may, in fact, be used to calibrate or adjust the Census-based estimates of workers in various areas. Such adjustments prove difficult, however, with respect to the industrial or sectoral distribution of workers because workers left out of the Census count are not likely to be distributed at random over various industrial categories, divisions or groups.

The results of the 1987-88 survey of the NSS shown in Table 5.5 indicate that the usual principal activity of a large majority of subsidiary workers was "domestic work". Further, 77-79 per cent of the female subsidiary status workers were "self-employed",¹⁴ about 21 per cent worked as casual wage labourers. Of the subsidiary workers who reported themselves to be unemployed during a major part of the previous year, 54 per cent in rural India, and almost 40 per cent in urban India worked as casual labourers during some parts of a year. Almost 39 per cent of rural females and 4 per cent of urban females, who reported "studies" as their principal activity of the previous year, also worked as a subsidiary activity, essentially as self-employed. The proportion of casual labourers was relatively much less among students and all other categories of non-workers according to principal activity. Agricultural sector absorbed 96 per cent of the self-employed female subsidiary status workers in rural India and 45 per cent of those in urban India. (These figures are not shown in Table 5.5).

(d) Urban Female WPRs

The urban female WPRs in India have been markedly lower than the rural. This fact partly reflects the difficulty of combining "work" with other household duties in urban

¹⁴ Evidently, most of the female subsidiary workers get so classified because of their participation in the work of household enterprises. Their participation may be during peak seasons due to the inability of households to engage hired labour required to complete the production activities in good time.

areas than in villages where work on the family farm or in the family enterprise tends to be the predominant activity. The inter-state differences in urban FWPRs are likely to reflect the cumulative effect of several complex factors, such as the proportion of migrants in the population, the size distribution of towns (which influences the distance between places of residence and the possible work places), as well as, the characteristics of the population in terms of age, education and work experience prior to migration, if any. Differences in FWPRs by migration status and size class of towns or cities are reviewed below.

(e) Growth of Female Employment During 1980s

A few years ago, Professor B.S. Minhas and I had noted that the severe drought of 1987-88 had affected about 47 per cent of the total geographical area of the country (155 out of 329 million hectares of cultivated land).¹⁵ (The impact of the drought on the nature and pattern of work activities will be discussed below). It was a severe shock that was likely to depress the rural WPRs, despite the large-scale relief works that had sustained the purchasing power of the rural population. This hypothesis remains to be confirmed when the results of the fifth quinquennial survey conducted during 1993-94 become available. (The annual surveys of 1989-90 and 1990-91 have reported even lower FWPRs than the 1987-88 survey). (See Table 5.2).

Given the large size of our population, these are not trivial points. If the rural female WPRs in 1987-88 had been the same as in 1983, it would have implied 4.8 million additional workers (a total of 96.8 million instead of 92.0 million). The annual rate of growth of rural female employment during the 4.5 years between the two surveys, would have been 5.2 per cent (and not 1.8 per cent). If similar adjustments are made for rural and urban males, the overall rate of growth of employment during the 1980s would not appear disappointing and some of the gloom with respect to the rate of growth of employment between 1983 and 1987-88 would be eliminated.

(f) Female Worker Population Ratios in Neighbouring Asian Countries

Given the size of India's population, it is obviously necessary to look at the intra-country inter-state differences. However, before doing so, let us first examine how the Indian WPRs compare with those of neighbouring Asian countries. The data presented in Table 5.6 are limited to the countries of the Indian sub-continent and Thailand. (A more extensive discussion of inter-country differences would require a careful study of their conceptual frameworks, rural-urban distribution population, etc.).¹⁶ The data are presented for the total population and for the population aged 15 years and above. (The latter serves as a rough approximation to standardisation for differences in the age composition of the population).

According to these data, the crude labour force participation rate of Indian females (based on the 1987-88 survey) was quite close to that for Sri Lanka (based on the 1992 survey); but it was substantially above the corresponding value for Pakistan and significantly lower than the level reported for Bangladesh and Thailand. Figures for

¹⁵ Visaria, Pravin and Minhas, B.S., 1990. "Evolving an Employment Policy for the 1990s: What Do the Data Tell Us?". *Economic and Political Weekly*, Vol. XXVI, No. 15, April 13, 1990.

¹⁶ For a modest attempt in this direction, see: Visaria, Pravin, 1990. "Concepts and Measurement of Unemployment and Underemployment in Asian Countries: A Comparative Study". ARTEP, ILO, New Delhi.

males are relatively similar for four of the five countries. The reported LFPR for males in Pakistan is much lower than for other countries, probably because it has a higher rate of population growth and a younger age distribution than the other four countries covered in Table 5.5. The pattern of differences persists when we look at participation rates for the population aged 15 and over. (The figures for Sri Lanka relate to the population aged 10 and over and are, therefore, lower than those for other countries. Sri Lanka has near universal school attendance ratios except probably in its "estate" population). However, the high value of female LFPR for Bangladesh comes as a surprise and seems to need a further study. Thailand has always reported a much higher female LFPR than most Asian countries; a majority of Thai women work as unpaid family workers.¹⁷ The reported female LFPR for Pakistan is said to be depressed because of the unwillingness of Muslim women to work outside the home; most Pakistani women respondents who have not been educated beyond high school probably consider non-participation in economic activity as a status symbol. We shall later examine the differentials in female WPRs in India by religion of the household.

Figure 1
Worker-Population Ratios by Sex, 1911-1991

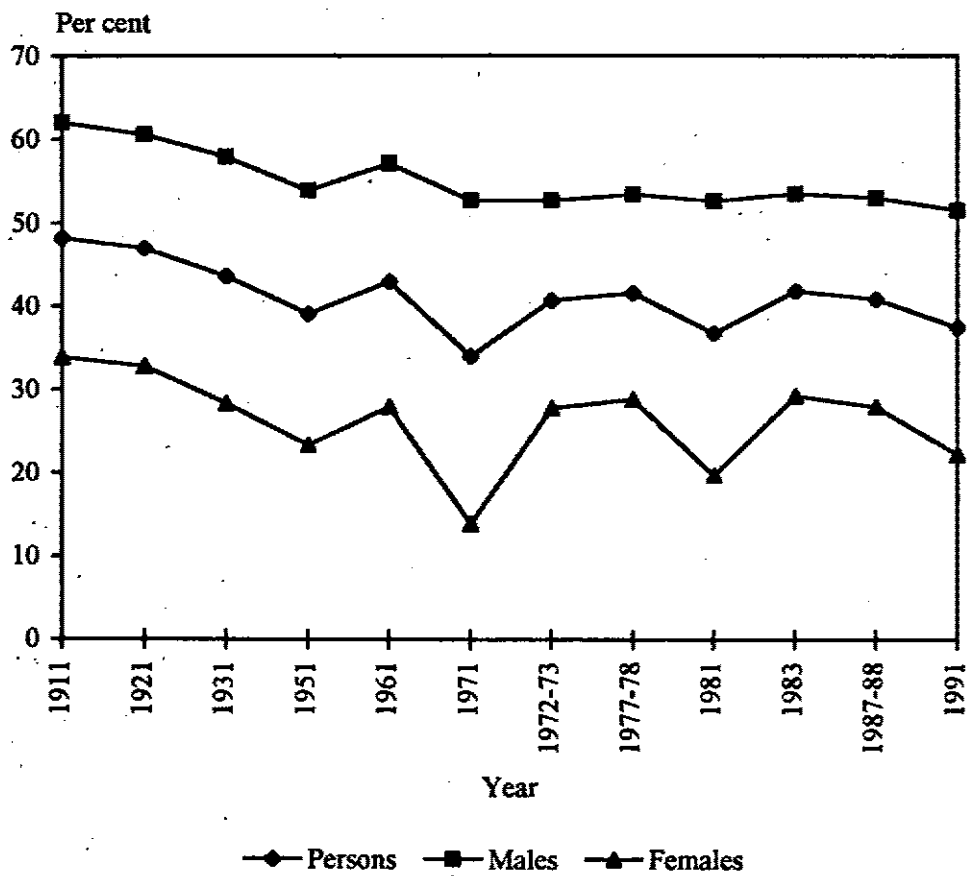


Figure 2
India: Worker-Population Ratios by Rural-Urban Residence
and Sex, 1951-1991

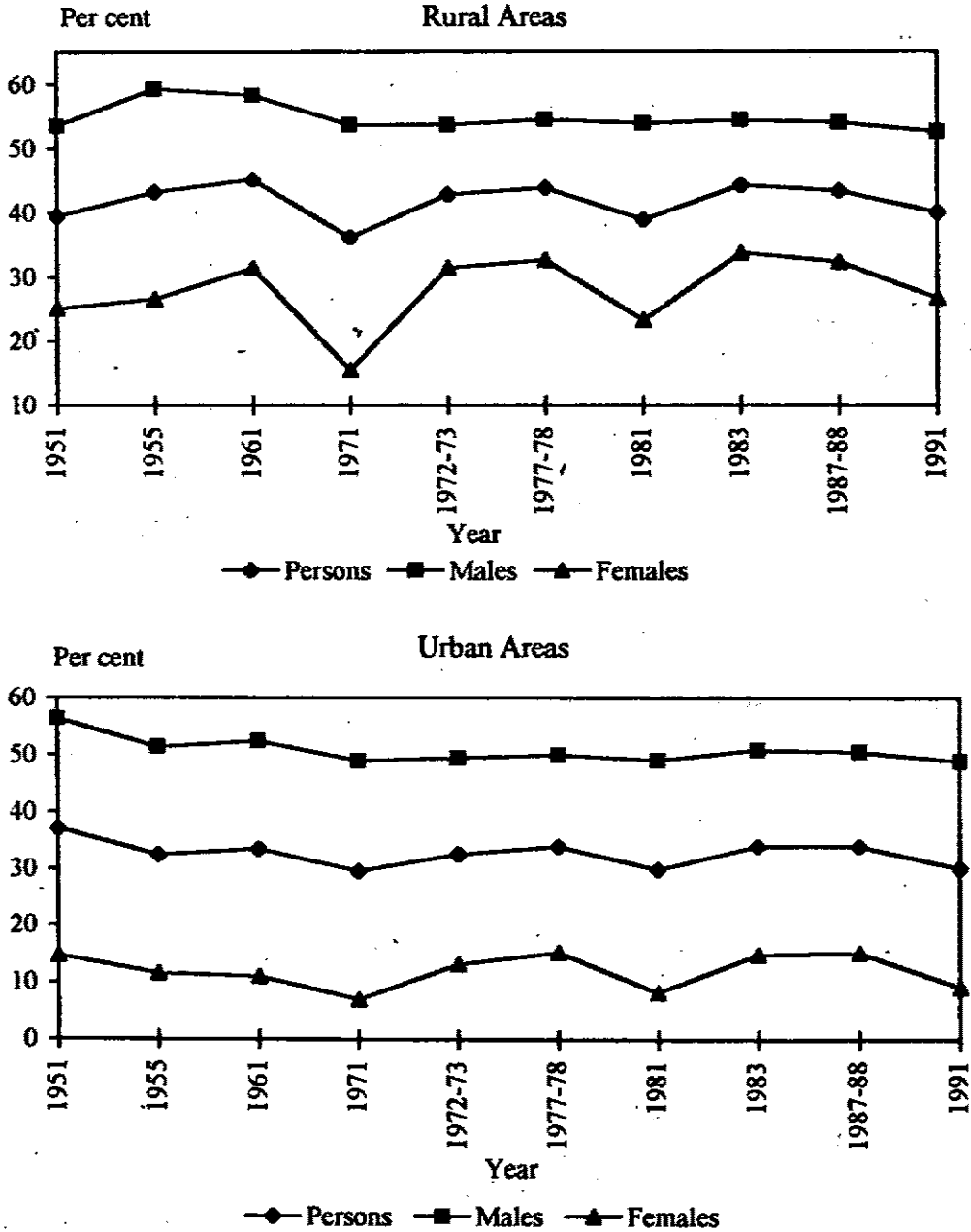


Table 5.1: (India) Worker-Population Ratios by Sex According to the Decennial Census and the Four Quinquennial Surveys of the National Sample Survey, 1911-1991

| Year of Census/ NSS Survey | Persons | Males | Females |
|----------------------------|---------|-------|---------|
| 1911 | 48.2 | 62.0 | 33.9 |
| 1921 | 47.0 | 60.6 | 32.8 |
| 1931 | 43.6 | 57.9 | 28.4 |
| 1951 | 39.1 | 53.9 | 23.4 |
| 1961 | 43.0 | 57.1 | 28.0 |
| 1971 | 34.0 | 52.7 | 13.9 |
| 1972-73 NSS | 40.7 | 52.7 | 27.8 |
| 1977-78 NSS | 41.6 | 53.4 | 28.9 |
| 1981 | 36.8 | 52.6 | 19.8 |
| 1983 NSS | 41.8 | 53.5 | 29.3 |
| 1987-88 NSS | 40.9 | 53.0 | 28.0 |
| 1991 | 37.5 | 51.6 | 22.3 |

Sources :

1. Census of India 1961, Paper No.1 of 1967. Subsidiary Tables B-I.6 and B-II. 3, *Workers from 1901-11 to 1961 by States and Union Territories and by Cities*. New Delhi, 1967.
2. NSS, Government of India, *Report No. 62 on Employment and Unemployment* (Ninth Round, May-November 1955).
3. Census of India 1961, Vol. I, India, Part II-A(i), *General Population Tables*; and Part II-B(ii), *General Economic Tables*.
4. Census of India 1961, Paper No. 1 of 1962, *Final Population Tables*, pp. LXX.
5. Census of India, 1971, Series 1, India, Part II-B(i), and Part-B(ii), *General Economic Tables*, pp. 20-74, and pp. 291-304.
6. Census of India 1971, Series 1, India, Part II-B(ii), *Social and Cultural Tables*, pp. 106-129.
7. Census of India 1981, Series 1, India, Part II-B(i), *Primary Census Abstract: General Population*, pp. xlv-lvi.
8. NSSO, Government of India, *Sarvekshana*, Special Number 1990.
9. K.C. Seal, 'Women in the Labour Force in India: A Macro-Level Statistical Profile', ARTEP, pp. 43.
10. Census of India 1991, Series 1, India, Paper 2 of 1992.
11. NSSO, Government of India, *Sarvekshana*, Vol. XVI, No. 1, July-September 1992.
12. NSSO, Government of India, *Tables with Notes on the Fourth Quinquennial Survey on Consumer Expenditure and Employment-Unemployment*, December 1992.

Table 5.2: (India) Worker-Population Ratios by Rural-Urban Residence and Sex, 1951 to 1991

| Year/Source/ (NSS Round) | India | | | Rural Areas | | | Urban Areas | | |
|-----------------------------|--------------|-------|--------------|--------------|-------|--------------|--------------|-------|--------------|
| | Per- sons | Males | Fe- males | Per- sons | Males | Fe- males | Per- sons | Males | Fe- males |
| 1951 Census (9) | 39.1 | 53.9 | 23.4 | 39.5 | 53.5 | 25.0 | 37.1 | 56.4 | 14.7 |
| 1955 NSS | - | - | - | 43.2 | 59.2 | 26.6 | 32.4 | 51.4 | 11.6 |
| 1961 Census | 43.0 | 57.1 | 28.0 | 45.1 | 58.2 | 31.4 | 33.5 | 52.4 | 11.1 |
| 1971 Census | 34.0 | 52.7 | 13.9 | 36.1 | 53.6 | 15.5 | 29.6 | 48.9 | 7.1 |
| 1972-73 NSS (27) | 40.7 | 52.7 | 27.8 | 42.8 | 53.6 | 31.4 | 32.6 | 49.4 | 13.2 |
| 1977-78 NSS (32) | 41.6 | 53.4 | 28.9 | 43.8 | 54.4 | 32.6 | 33.9 | 50.0 | 15.3 |
| 1981 Census @ | 36.8 | 52.6 | 19.8 | 38.9 | 53.8 | 23.2 | 30.0 | 49.1 | 8.3 |
| 1983 NSS (38) | 41.8 | 53.5 | 29.3 | 44.2 | 54.3 | 33.7 | 34.0 | 50.9 | 14.9 |
| 1987-88 NSS (43) | 40.9 | 53.0 | 28.0 | 43.3 | 53.9 | 32.3 | 34.0 | 50.6 | 15.2 |
| 1989-90 NSS (45) | 41.5 | 53.9 | 27.9 | 43.7 | 54.8 | 31.9 | 33.7 | 51.2 | 14.6 |
| 1990-91 NSS (46) | 40.4 | 54.2 | 25.4 | 42.7 | 55.3 | 29.2 | 33.8 | 51.3 | 14.3 |
| 1991 Census* | 37.5 | 51.6 | 22.3 | 40.0 | 52.5 | 26.7 | 30.2 | 48.9 | 9.2 |

Sources:

1. NSS, Government of India. *Report No. 62 on Employment and Unemployment* (Ninth Round, May-November 1955).
2. Census of India 1961. Vol. I, India, Part II-A(i), *General Population Tables; and Part II-B(i), General Economic Tables*.
3. Census of India 1961, Paper No. 1 of 1962, *Final Population Tables*, pp. LXX.
4. Census of India, 1971. Series 1, India, Part II-B(i), and Part-B(ii), *General Economic Tables*, pp. 20-74, and pp. 291-304.
5. Census of India 1971. Series 1, India, Part II-B(ii), *Social and Cultural Tables*, pp. 106-129.
6. Census of India 1981. Series 1, India, Part II-B(i), *Primary Census Abstract; General Population Tables*, pp. Xliv-lvi.
7. NSSO, Government of India. *Sarvekshana*, Special Number 1990.
8. K.C. Seal, *Women in the Labour Force in India: A Macro-Level Statistical Profile*, ARTEP, pp. 43.
9. Census of India 1991, Series 1, India, Paper 2 of 1992.
10. NSSO, Government of India. *Sarvekshana*, Vol. XVI, No. 1, July-September 1992.
11. NSSO, Government of India, *Tables with Notes on the Fourth Quinquennial Survey on Consumer Expenditure and Employment-Unemployment*, December 1992.

* Excludes Jammu & Kashmir

@ Assam is excluded.

Notes:

1. The ratios based on the NSS 27th, 32nd and 38th Rounds have been obtained by weighting the worker-population ratios for broad age-groups by interpolated population figures from the smoothed age distributions of the population enumerated in 1971 and 1981 and the projected population for 1986. The estimates for 1987-88 take account of the projected population as on January 1, 1988, but, not of the age specific worker population ratios.
2. Alternative estimates of crude worker population ratios based on the NSS Rounds for 1972-73 to 1983 are shown below.

| Round/Year | Rural Areas | | Urban Areas | |
|--------------|-------------|---------|-------------|---------|
| | Males | Females | Males | Females |
| 27 (1972-73) | 54.5 | 31.8 | 50.1 | 13.4 |
| 32 (1977-78) | 55.2 | 33.1 | 50.8 | 15.6 |
| 38 (1983) | 54.7 | 34.0 | 51.2 | 15.1 |

See *Sarvekshana*, Special Number, September 1990, p.60.

The estimates published earlier pertained to population aged five years and over. The earlier estimates have been adjusted by including persons aged 0-4 in the denominator. This adjustment procedure differs from that outlined in note 1 above; and hence, the difference between the two sets of estimates.

Table 5.3: (India) Worker-Population Ratios by Rural-Urban Residence and Sex, Considering only the Principal Workers Enumerated in the NSS and the Main Workers in the 1981 and the 1991 Censuses

| Area/Sex | (Per cent) | | | | |
|--------------------|------------|------|------|---------|------|
| | 1977-78 | 1981 | 1983 | 1987-88 | 1991 |
| Rural India | | | | | |
| Males | 53.7 | 52.6 | 52.8 | 51.7 | 51.3 |
| Females | 24.8 | 16.0 | 24.8 | 24.5 | 19.1 |
| Both Sexes | 39.5 | 34.8 | 41.0 | 38.5 | 35.7 |
| Urban India | | | | | |
| Males | 49.7 | 48.5 | 50.0 | 49.6 | 48.4 |
| Females | 12.3 | 7.3 | 12.0 | 11.8 | 8.6 |
| Both Sexes | 31.9 | 29.2 | 34.5 | 31.5 | 29.6 |

Table 5.4: (India) Subsidiary or Marginal Workers as Per cent of (a) All Female Workers and (b) All Females by Rural-Urban Residence, 1977-78 to 1991

| Year and Source | (Per cent) | | | |
|-----------------|--|-------------|--|-------------|
| | Rural India | | Urban India | |
| | Subsidiary or Marginal Workers as % of | | Subsidiary or Marginal Workers as % of | |
| | All Female Workers | All Females | All Female Workers | All Females |
| 1977-78 Survey | 25.1 | 8.3 | 21.5 | 3.3 |
| 1981 Census | 31.0 | 7.2 | 12.5 | 1.0 |
| 1983 Survey | 26.9 | 9.2 | 20.3 | 3.1 |
| 1987-88 Survey | 23.8 | 7.8 | 23.1 | 3.4 |
| 1991 Census | 30.0 | 8.0 | 11.3 | 1.1 |

Table 5.5: (India) Percentage of Females Classified as Workers in Terms of Subsidiary Activity Among Those Classified as Non-Workers According to Usual Principal Activity by Status of Subsidiary Work. NSS 1987-88

| Status of Subsidiary Usual Activity | Usual Principal Activity | | | | | | Per cent of All Subsidiary Workers |
|---|--------------------------|------------------|--------------------------|----------|--------|------|------------------------------------|
| | Unemployed | Students Workers | Domestic Pensioners etc. | Rentiers | Others | All | |
| Rural Areas | | | | | | | |
| a) Self-employed Regular | 7.1 | 3.6 | 15.6 | 5.4 | 0.1 | 8.1 | 78.6 |
| Employees | 0.3 | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 | 1.0 |
| Casual | | | | | | | |
| Labourers | 8.8 | 0.1 | 4.2 | 1.7 | 0.1 | 2.1 | 20.4 |
| Per cent Working | 16.2 | 3.7 | 19.9 | 7.1 | 0.2 | 10.3 | 100.0 |
| b) Subsidiary Workers as % of Rural Females | 0.9 | 9.4 | 34.8 | 0.3 | 30.1 | 75.5 | - |
| Urban Areas | | | | | | | |
| c) Self-employed Regular | 7.2 | 0.8 | 5.2 | 3.6 | 0.3 | 3.0 | 76.9 |
| Employees | 2.3 | 0.0 | 0.1 | 0.2 | 0.0 | 0.1 | 2.6 |
| Casual | | | | | | | |
| Labourers | 6.1 | 0.0 | 1.4 | 1.8 | 0.0 | 0.8 | 20.5 |
| Per cent Working | 15.6 | 0.8 | 6.7 | 5.6 | 0.3 | 3.9 | 100.0 |
| d) Subsidiary Workers as % of Rural Females | 1.1 | 21.8 | 44.1 | 0.4 | 20.9 | 88.3 | - |

Notes:

1. Except for figures in rows (b) and (d), figures in each column indicate the percentage of persons reporting a specified principal usual activity, who were working in terms of their subsidiary activities and the "status" of their subsidiary work converted the latter figures into column percentages.
2. Figures in rows (b) and (d) do not add up to 100.0 because the remaining females were workers in terms of their principal usual activity.

Table 5.6: Labour Force Participation Rates in Selected Countries of Asia, Recent Years

| Country | All Ages | | | 15+ | | |
|-------------------|----------|---------|---------|-------|---------|---------|
| | Males | Females | Persons | Males | Females | Persons |
| Bangladesh LFSS | | | | | | |
| 1989 | 53.2 | 40.2 | 46.9 | 89.1 | 67.4 | 78.6 |
| Pakistan 1992-93* | 46.4 | 8.2 | 28.0 | 83.5 | 14.0 | 49.7 |
| Sri Lanka LFSS | | | | | | |
| 1992 (a) | 55.3 | 26.6 | 40.9 | 76.4 | 36.9 | 56.6 |
| Thailand LFSS | | | | | | |
| 1990 (b) | 59.7 | 52.8 | 56.3 | 87.7 | 76.3 | 81.9 |
| India LFSS | | | | | | |
| 1987-88 | 54.4 | 28.7 | 42.0 | 86.2 | 43.7 | 65.3 |

Source: International Labour Office, 1993. *Year Book of Labour Statistics 1993*, Geneva, pp. 26-32.

* Official Estimates

(a) 10+; October-December (b) 12+; August

6 Inter-State Differences in FWPRs

Our discussion so far has focused on India as a whole or its rural and urban population. Admittedly, the stability of NSS-based WPRs is observed only at the all-India (and not in all States) and in the estimates based on reported usual activities (and not necessarily in estimates relating to the current weekly or daily activities). Therefore, it is necessary to examine also the state-level differences and the pattern of changes in the female WPRs based on the 1961 and subsequent Censuses and their comparability with the NSS-based ratios. Table 6.1 and Figures 3 and 4 present the necessary data for 16 major States, by rural-urban residence.

The interstate differences in female WPRs tend to be much larger than those in male WPRs both in rural and urban areas. Further, the Census-based female WPRs in rural areas tend to vary more than those provided by the NSS surveys. This is evident when the range of interstate differences in rural FWPRs is shown as per cent of the (unweighted) mean values. Measured by the same index, the interstate differences in urban FWPRs generally tend to be somewhat smaller than in rural FWPRs; but this pattern was not seen in the NSS-based estimates for 1977-78, 1983, 1987-88.

(a) Rural Females

A comparative study of the rural female WPRs in 16 more populous States leads to the following broad conclusions:

- Compared with the 1961 Census estimates, the 1971 Census estimates showed a sharp dip in all the States.
- The 1981 Census estimates of WPRs were higher than those of the 1971 Census in all the 15 States for which the 1981 Census data were available. Most of them did not quite reach the 1961 values but in West Bengal, Tamil Nadu and Kerala, they came rather close.
- The 1991 Census estimates were higher than those of the 1981 Census in 13 States; they fell below the latter in only Kerala and Punjab. The 1991 Census estimates exceeded or nearly approached the 1961 values in Gujarat, Karnataka, Maharashtra,

Tamil Nadu and West Bengal. In the remaining 11 States, the 1991 estimates were markedly below the 1961 levels.

d) Compared with the 1961 Census values, the estimated WPRs for rural females based on the 1972-73 survey of the NSS were higher in ten of the 16 States. They showed a decline in the four States showing the high female WPRs exceeding 40 per cent in 1961 (Himachal Pradesh, Maharashtra, Madhya Pradesh, and Andhra Pradesh).

Relative to the WPRs estimated by the 1961 Census and the 1972-73 survey, the estimates based on the 1977-78, 1983 and the 1987-88 surveys have shown some fluctuations.

On the whole, there is a high correlation between various state-level estimates, significant at the one per cent level. The correlation matrix is given in Table 6.2. The correlation between the 1961 Census estimates and the NSS estimates has ranged between 0.71 (1977-78) and 0.84 (1972-73 and 1987-88). The 1972-73 values and the subsequent state - level estimates have shown a correlation of between 0.89 and 0.96.

One can group different States into four classes according to the level of FWPR: (a) relatively high (40 per cent or more); (b) medium (30-40 per cent); (c) low (20 to 30 per cent); (d) very low (below 20 per cent). According to this classification shown in Table 6.3, five States of Andhra Pradesh, Himachal Pradesh, Madhya Pradesh, Maharashtra and Rajasthan have shown (relatively) high female WPRs (of 40 per cent or more) in rural areas according to the 1961 Census, as well as, the four quinquennial surveys of the NSS. At the other end, West Bengal has always reported a very low rural female WPR.

The remaining eight States cross from one class to another in different years. However, if the four classes are collapsed into two (high and low) Bihar, Haryana, and Uttar Pradesh remain in the group of States with low rural female WPRs; and Gujarat and Karnataka remain in the other group with relatively high WPRs.

Punjab crosses over from the very low value of female WPRs in 1961 to the next higher class in 1972-73 and 1977-78 and the medium level FWPRs in 1983 and 1987-88. In fact, the NSS estimates of female WPR in rural Punjab have always been markedly higher than those of the 1961 Census; the same is true for West Bengal but the differences between the Census and the NSS estimates for West Bengal are smaller than those for Punjab. Assam crosses over from a medium value of female WPRs in 1961 to the very low level of WPR in 1971, 1972-73, 1977-78, 1983 and 1987-88 but in 1991 it crosses over to the next higher class.

The 1991 Census estimates of female WPRs in rural areas have come close to those of the 43rd Round of the NSS in Bihar, Gujarat, Karnataka, Madhya Pradesh and Maharashtra. The Census estimates exceeded the 43rd Round estimates of the NSS only in Assam. For the remaining States, the 1991 Census and the NSS survey of 1987-88 differ markedly in their estimates of rural female worker-population ratios; and the Census estimates tend to be lower. The differences are particularly marked in Haryana, Himachal Pradesh, Kerala, Punjab, Rajasthan, Uttar Pradesh and West Bengal.

(b) Urban Females

The 1991 Census estimates of urban female WPRs are close to those of the NSS only in Assam and Himachal Pradesh. For all other States, the two sets of estimates differ substantially, and the Census estimates are lower.

Interestingly, the interstate range of variation in urban FWPR's tends to be smaller than that in rural FWPRs. The correlation coefficients for estimates of urban FWPRs of 1961 and subsequent NSS-based values, given in Table 6.2, are generally lower than the corresponding estimates for rural areas. The NSS-based estimates from four surveys show higher correlations, significant at the one per cent level.

The observed differences in urban WPRs could reflect some problems in recording the economic activities of population in a massive operation such as a national Census. More likely, however, the differences in urban FWPRs result from differences in the composition of population influencing the supply of workers and the demand for labour. To understand these factors, we need first to review the differences in WPRs according to various characteristics of the population.

Some analysts attempt to identify the determinants of inter-state or inter-district differences in female WPRs through regression analysis, by considering the other characteristics of the population of each state. However, over the past 35 years, considerable direct evidence has become available on the differences in female WPRs according to several characteristics. Let us examine this evidence at some length in the next section.

Figure 3
Worker-Population Ratios for Rural Females in Selected States,
1961-1987-88

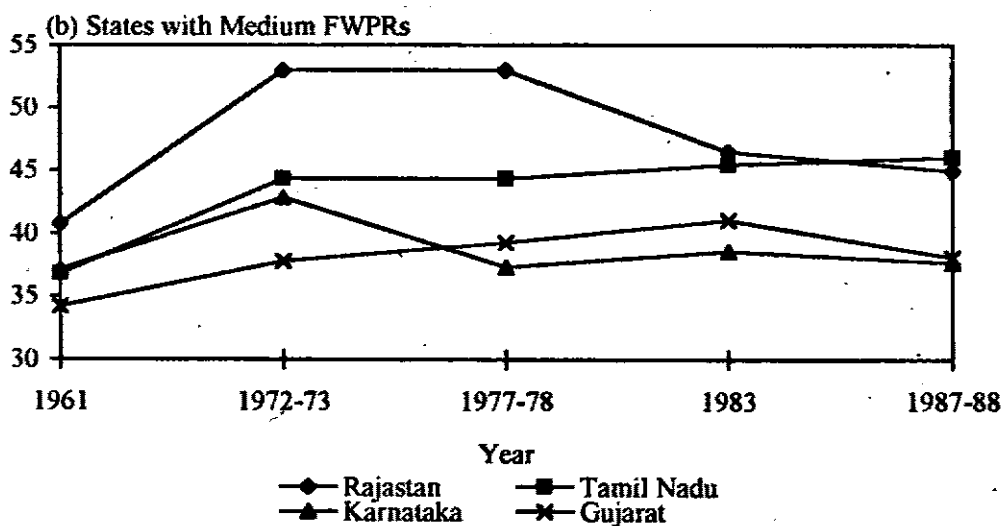
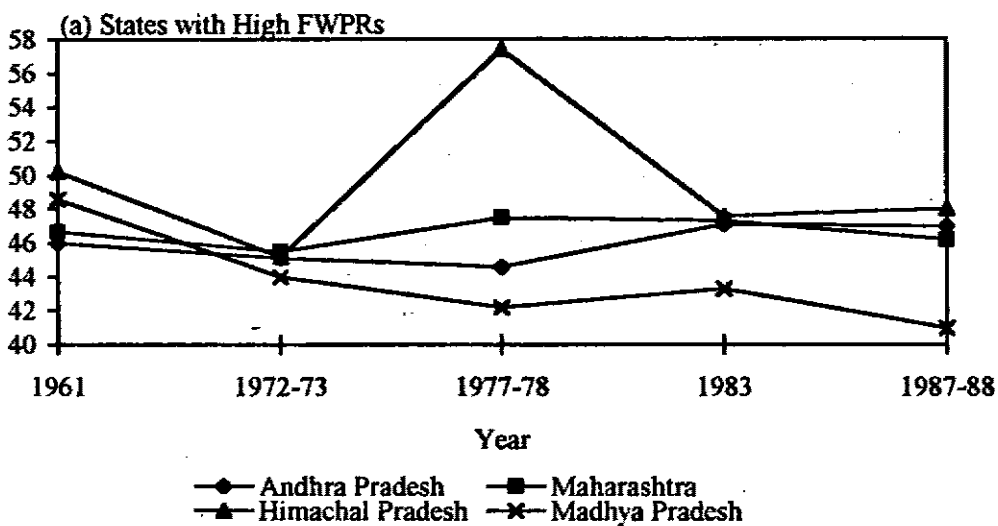


Figure 3 (contd.)

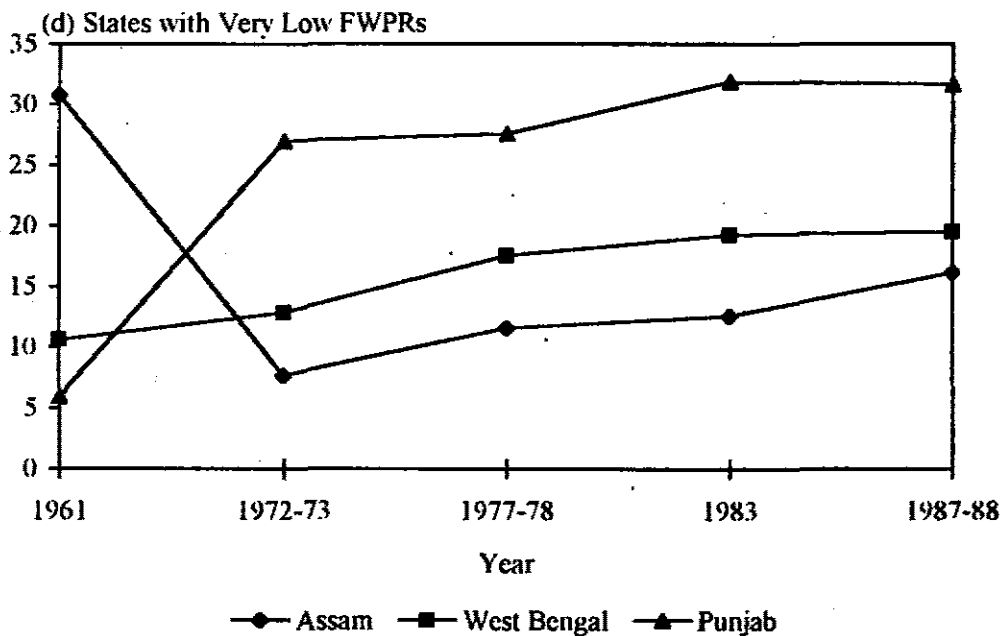
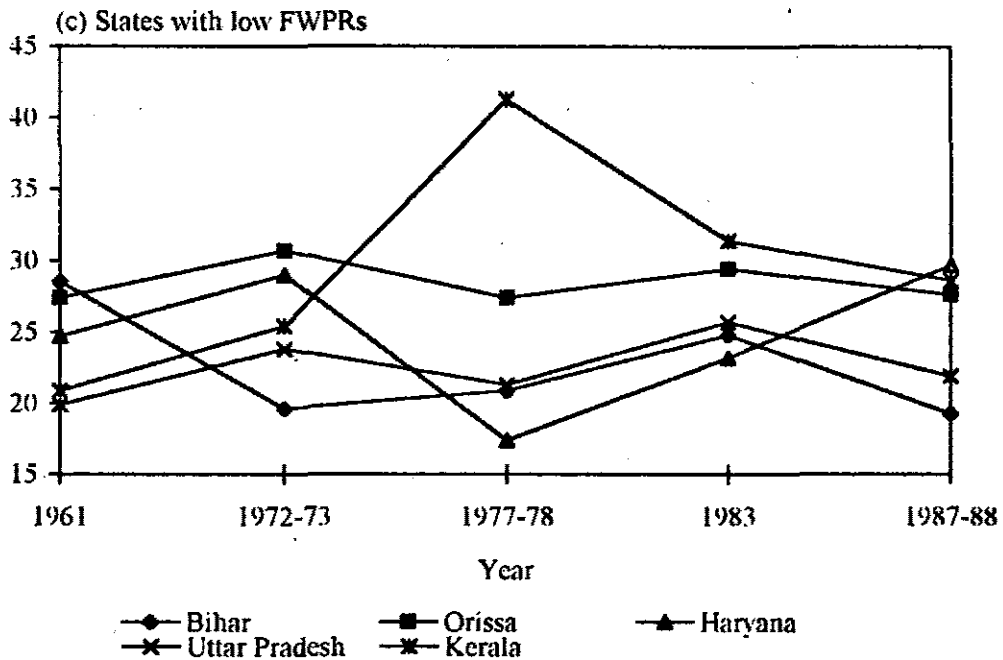


Figure 4
Worker-Population Ratios for Urban Females in Selected States, 1961-1987-88

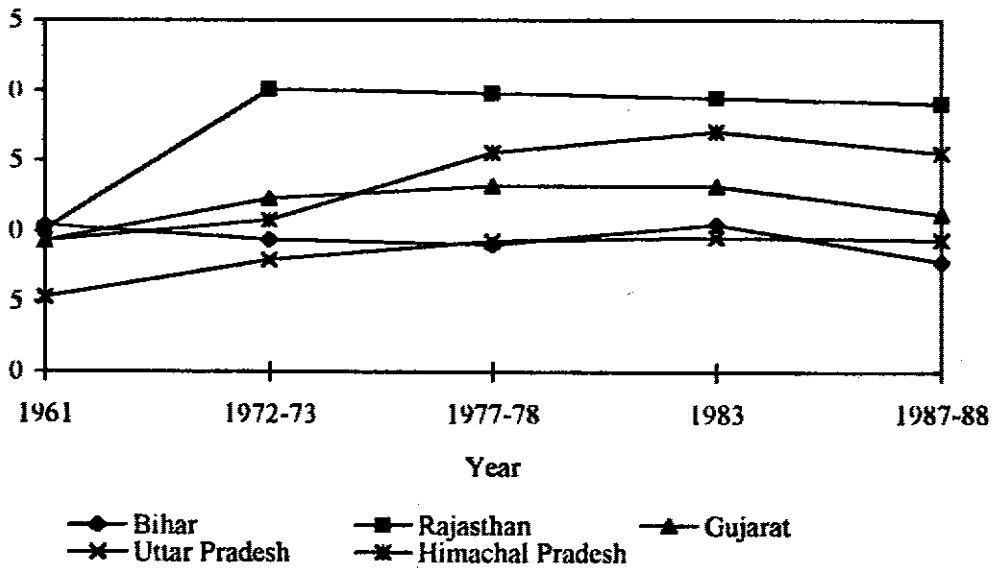
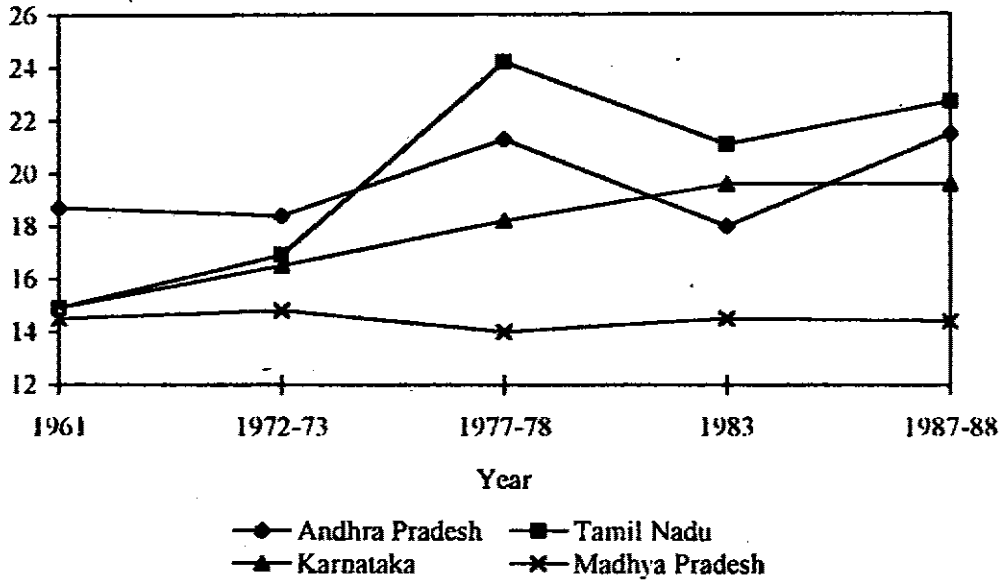
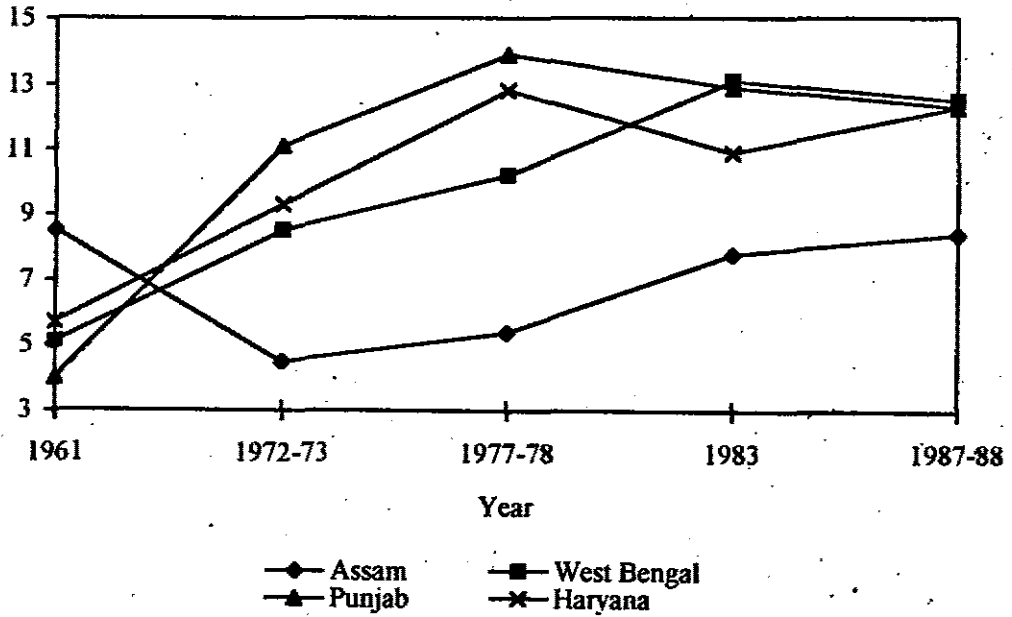
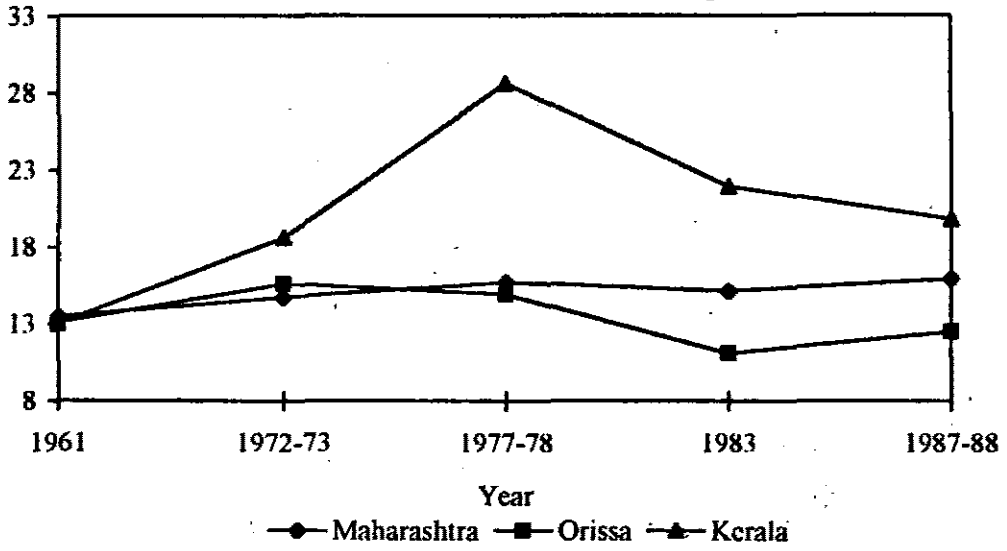


Figure 4 (contd.)



Women in the Indian Working Force

Table 6.1: Worker-Population Ratios by State, according to the Censuses and NSS Surveys, 1961-1991

| States | 1961 | 1971 | 1972- 1973 | 1977- 1978 | 1981 | 1983 | 1987- 1988 | 1991 |
|--------------------|------|------|---------------|---------------|------|------|---------------|-------|
| Rural Females | | | | | | | | |
| All India | 31.4 | 13.1 | 31.8 | 33.1 | 23.2 | 34.0 | 32.3 | 26.8* |
| Andhra Pradesh | 46.0 | 27.4 | 45.1 | 44.6 | 40.0 | 47.1 | 47.0 | 42.5 |
| Assam | 30.8 | 4.8 | 7.7 | 11.6 | N.A. | 12.6 | 16.2 | 23.3 |
| Bihar | 28.5 | 9.3 | 19.6 | 20.9 | 14.7 | 24.8 | 19.3 | 16.3 |
| Gujarat | 34.2 | 12.1 | 37.8 | 39.3 | 26.9 | 41.1 | 38.1 | 35.6 |
| Haryana | 24.7 | 2.3 | 29.0 | 17.4 | 12.5 | 23.2 | 29.7 | 12.6 |
| Himachal Pradesh | 50.2 | 21.7 | 45.2 | 57.4 | 33.4 | 47.6 | 48.0 | 36.6 |
| Karnataka | 37.1 | 15.8 | 42.9 | 37.3 | 30.7 | 38.6 | 37.7 | 36.6 |
| Kerala | 20.9 | 14.1 | 25.4 | 41.3 | 17.7 | 31.4 | 28.6 | 16.9 |
| Madhya Pradesh | 48.6 | 20.8 | 44.0 | 42.2 | 35.8 | 43.3 | 41.0 | 39.3 |
| Maharashtra | 46.7 | 24.4 | 45.5 | 47.5 | 40.9 | 47.3 | 46.2 | 46.1 |
| Orissa | 27.4 | 6.8 | 30.7 | 27.4 | 21.1 | 29.4 | 27.6 | 22.6 |
| Punjab | 5.9 | 0.7 | 27.0 | 27.6 | 6.9 | 31.9 | 31.7 | 4.4 |
| Rajasthan | 40.8 | 9.3 | 53.0 | 53.0 | 25.0 | 46.5 | 45.0 | 33.2 |
| Tamil Nadu | 36.8 | 17.6 | 44.4 | 44.4 | 33.6 | 45.5 | 46.1 | 38.5 |
| Uttar Pradesh | 19.9 | 7.3 | 23.8 | 21.3 | 9.0 | 25.7 | 21.9 | 14.2 |
| West Bengal | 10.6 | 4.6 | 12.9 | 17.6 | 8.9 | 19.3 | 19.6 | 13.1 |
| Maximum | 50.2 | 27.4 | 53.0 | 57.4 | 40.9 | 47.6 | 48.0 | 46.1 |
| Minimum | 5.9 | 0.7 | 7.7 | 11.6 | 6.9 | 12.6 | 16.2 | 4.4 |
| Mean | 31.8 | 12.4 | 33.4 | 34.4 | 23.8 | 34.7 | 34.0 | 27.0 |
| Range as % of Mean | 139 | 215 | 136 | 133 | 143 | 101 | 94 | 154 |

Table 6.1 (contd.)

| States | 1961 | 1971 | 1972- 1973 | 1977- 1978 | 1981 | 1983 | 1987- 1988 | 1991 |
|-----------------------|------|------|---------------|---------------|------|------|---------------|-------|
| Rural Males | | | | | | | | |
| All India | 58.2 | 53.5 | 54.5 | 55.2 | 53.8 | 54.7 | 53.9 | 52.6* |
| Andhra Pradesh | 64.3 | 60.2 | 62.4 | 61.2 | 60.2 | 60.6 | 59.5 | 57.9 |
| Assam | 53.8 | 48.6 | 50.2 | 51.2 | N.A. | 50.0 | 51.4 | 49.3 |
| Bihar | 56.0 | 52.7 | 51.6 | 52.1 | 51.1 | 50.9 | 50.0 | 48.9 |
| Gujarat | 55.3 | 52.8 | 52.3 | 55.1 | 54.2 | 55.0 | 55.9 | 54.9 |
| Haryana | 53.0 | 47.5 | 49.2 | 50.5 | 49.8 | 46.4 | 47.5 | 48.5 |
| Himachal Pradesh | 59.1 | 52.3 | 52.3 | 58.8 | 52.5 | 53.0 | 53.9 | 50.5 |
| Karnataka | 62.2 | 56.4 | 57.5 | 58.5 | 57.2 | 58.7 | 56.8 | 56.0 |
| Kerala | 47.4 | 45.3 | 46.8 | 50.8 | 45.2 | 48.6 | 50.6 | 47.9 |
| Madhya Pradesh | 61.6 | 55.3 | 56.3 | 57.2 | 56.4 | 56.2 | 54.6 | 54.0 |
| Maharashtra | 58.1 | 52.6 | 54.6 | 56.8 | 55.4 | 56.1 | 54.6 | 53.2 |
| Orissa | 61.0 | 55.8 | 57.7 | 56.5 | 56.7 | 57.5 | 56.6 | 54.7 |
| Punjab | 53.5 | 53.8 | 54.9 | 55.9 | 54.5 | 58.1 | 56.0 | 55.0 |
| Rajasthan | 60.1 | 53.6 | 58.1 | 57.7 | 52.2 | 55.0 | 51.2 | 50.1 |
| Tamil Nadu | 60.4 | 58.6 | 60.3 | 60.3 | 59.2 | 59.5 | 58.7 | 58.3 |
| Uttar Pradesh | 59.2 | 53.0 | 53.3 | 52.2 | 51.5 | 53.1 | 51.8 | 50.5 |
| West Bengal | 53.5 | 48.5 | 50.4 | 53.8 | 50.6 | 53.9 | 55.0 | 52.1 |
| Maximum | 64.3 | 60.2 | 62.4 | 61.2 | 60.2 | 60.6 | 59.5 | 58.3 |
| Minimum | 47.4 | 45.3 | 46.8 | 50.5 | 45.2 | 46.4 | 47.5 | 47.9 |
| Mean | 57.4 | 52.9 | 54.2 | 55.5 | 53.8 | 54.5 | 54.0 | 52.6 |
| Range as % of Mean | 29 | 28 | 29 | 19 | 28 | 26 | 22 | 20 |

Women in the Indian Working Force

Table 6.1 (contd.)

| States | 1961 | 1971 | 1972- 1973 | 1977- 1978 | 1981 | 1983 | 1987- 1988 | 1991 |
|-----------------------|------|------|---------------|---------------|------|------|---------------|------|
| Urban Females | | | | | | | | |
| All India | 11.1 | 6.6 | 13.4 | 15.6 | 8.3 | 15.1 | 15.2 | 9.2* |
| Andhra Pradesh | 18.7 | 10.5 | 18.4 | 21.3 | 11.8 | 18.0 | 21.5 | 11.9 |
| Assam | 8.5 | 3.5 | 4.5 | 5.4 | N.A. | 7.8 | 8.4 | 7.5 |
| Bihar | 10.4 | 4.5 | 9.4 | 9.1 | 4.8 | 10.5 | 7.9 | 5.1 |
| Gujarat | 9.3 | 5.5 | 12.3 | 13.2 | 6.5 | 13.2 | 11.2 | 7.2 |
| Haryana | 5.7 | 3.0 | 9.3 | 12.8 | 4.5 | 10.9 | 12.3 | 5.1 |
| Himachal Pradesh | 9.3 | 7.1 | 10.8 | 15.6 | 11.3 | 17.1 | 15.6 | 14.1 |
| Karnataka | 14.9 | 9.2 | 16.5 | 18.2 | 11.8 | 19.6 | 19.6 | 12.9 |
| Kerala | 13.0 | 10.4 | 18.6 | 28.6 | 11.8 | 21.9 | 19.8 | 13.0 |
| Madhya Pradesh | 14.5 | 7.3 | 14.8 | 14.0 | 9.6 | 14.5 | 14.4 | 10.2 |
| Maharashtra | 13.5 | 8.3 | 14.7 | 15.7 | 10.1 | 15.1 | 15.9 | 11.4 |
| Orissa | 13.1 | 6.6 | 15.6 | 14.9 | 9.5 | 11.1 | 12.5 | 8.1 |
| Punjab | 4.0 | 2.7 | 11.1 | 13.9 | 4.2 | 12.9 | 12.3 | 4.5 |
| Rajasthan | 10.1 | 3.9 | 20.1 | 19.8 | 5.9 | 19.5 | 19.1 | 7.2 |
| Tamil Nadu | 14.9 | 9.1 | 16.9 | 24.2 | 12.0 | 21.1 | 22.7 | 13.1 |
| Uttar Pradesh | 5.3 | 3.1 | 8.0 | 9.3 | 3.5 | 9.6 | 9.4 | 4.8 |
| West Bengal | 5.1 | 3.9 | 8.5 | 10.2 | 5.6 | 13.1 | 12.5 | 6.2 |
| Maximum | 18.7 | 10.5 | 20.1 | 28.6 | 12.0 | 21.9 | 22.7 | 14.1 |
| Minimum | 4.0 | 2.7 | 4.5 | 5.4 | 3.5 | 7.8 | 7.9 | 4.5 |
| Mean | 10.6 | 6.2 | 13.1 | 15.4 | 8.2 | 14.7 | 14.7 | 8.9 |
| Range as % of Mean | 139 | 126 | 119 | 151 | 104 | 96 | 101 | 108 |

Table 6.1 (contd.)

| States | 1961 | 1971 | 1972- 1973 | 1977- 1978 | 1981 | 1983 | 1987- 1988 | 1991 |
|-----------------------|------|------|---------------|---------------|------|------|---------------|-------|
| Urban Males | | | | | | | | |
| All India | 52.3 | 48.8 | 50.1 | 50.8 | 49.1 | 51.2 | 50.6 | 48.9* |
| Andhra Pradesh | 52.4 | 49.9 | 49.8 | 51.6 | 49.6 | 50.9 | 50.3 | 48.9 |
| Assam | 5.6 | 50.4 | 49.3 | 48.6 | N.A. | 49.4 | 51.2 | 50.5 |
| Bihar | 51.7 | 47.5 | 47.8 | 47.6 | 44.3 | 47.1 | 44.8 | 41.9 |
| Gujarat | 48.4 | 47.3 | 47.7 | 49.4 | 50.2 | 52.0 | 51.0 | 51.1 |
| Haryana | 48.5 | 46.2 | 46.3 | 47.8 | 50.3 | 53.3 | 55.3 | 48.5 |
| Himachal Pradesh | 61.7 | 54.5 | 58.2 | 56.6 | 54.3 | 53.3 | 46.6 | 52.4 |
| Karnataka | 51.6 | 48.3 | 49.0 | 49.2 | 48.4 | 51.3 | 49.4 | 49.8 |
| Kerala | 46.0 | 43.5 | 44.3 | 49.1 | 43.4 | 50.0 | 53.0 | 46.8 |
| Madhya Pradesh | 52.4 | 46.2 | 46.4 | 47.7 | 47.3 | 47.7 | 48.0 | 46.8 |
| Maharashtra | 54.8 | 51.1 | 51.3 | 51.2 | 50.9 | 51.3 | 49.6 | 50.6 |
| Orissa | 57.2 | 50.6 | 52.5 | 50.5 | 50.1 | 50.2 | 49.3 | 48.4 |
| Punjab | 51.1 | 49.9 | 52.7 | 54.7 | 52.0 | 53.8 | 54.0 | 52.3 |
| Rajasthan | 48.0 | 45.1 | 47.0 | 46.4 | 46.2 | 47.7 | 47.1 | 46.6 |
| Tamil Nadu | 51.6 | 50.3 | 51.6 | 53.7 | 51.3 | 54.0 | 55.8 | 52.8 |
| Uttar Pradesh | 51.7 | 47.9 | 50.2 | 49.9 | 47.5 | 50.2 | 48.9 | 46.4 |
| West Bengal | 55.4 | 49.8 | 54.8 | 54.5 | 49.6 | 54.2 | 53.9 | 49.6 |
| Maximum | 57.2 | 54.5 | 58.2 | 56.6 | 54.3 | 54.2 | 55.8 | 52.8 |
| Minimum | 46.0 | 43.5 | 44.3 | 46.4 | 43.4 | 47.1 | 44.8 | 41.9 |
| Mean | 52.4 | 48.7 | 49.9 | 50.5 | 49.0 | 51.0 | 50.5 | 49.0 |
| Range as % of Mean | 21 | 23 | 28 | 20 | 22 | 14 | 22 | 22 |

* Excluding Assam and Jammu & Kashmir.

Women in the Indian Working Force

Table 6.2: Coefficients of Correlation between Female Worker Population Ratios Reported by the 1961 Census and Estimates based on the Four Quinquennial Surveys of the NSS for 16 Major States, by Rural - Urban Residence

| Sources of Estimates | C1961 | S1972-73 | S1977-78 | S1983 | S1987-88 |
|----------------------|----------|-----------------------|----------|----------|-----------|
| Rural Females | | | | | |
| C 1961 | 1.0000 | | | | |
| S 1972-73 | 0.7371** | 1.0000 | | | |
| S 1977-78 | 0.7075* | 0.8907** | 1.0000 | | |
| S 1983 | 0.7238** | 0.9569** | 0.9491** | 1.0000 | |
| S 1987-88 | 0.7353** | 0.9547** | 0.9152** | 0.9683** | 1.0000 |
| Number of cases 16 | | 1-tailed significance | | * -0.01 | ** -0.001 |
| Urban Females | | | | | |
| C 1961 | 1.0000 | | | | |
| S 1972-73 | 0.7232** | 1.0000 | | | |
| S 1977-78 | 0.6027* | 0.8759** | 1.0000 | | |
| S 1983 | 0.5835* | 0.8342** | 0.9234** | 1.0000 | |
| S 1987-88 | 0.6785* | 0.8497** | 0.9065** | 0.9406** | 1.0000 |
| Number of cases 16 | | 1-tailed significance | | * - 0.01 | * - 0.001 |

C: CENSUS, S: SURVEY.

Table 6.3: Classification of 16 More Populous States of India According to the Level of Rural Female WPRs. 1961 to 1987-88

| WPR Range | 1961 | 1972-73 | 1977-78 | 1983 | 1987-88 |
|-------------------------------|---|--|---|--|---|
| (a) High 40 % or More | Himachal Pradesh Madhya Pradesh Maharashtra Andhra Pradesh Rajasthan(5) | Andhra Pradesh Himachal Pradesh Karnataka Madhya Pradesh Maharashtra Rajasthan Tamil Nadu(7) | Andhra Pradesh Himachal Pradesh Kerala Madhya Pradesh Maharashtra Rajasthan Tamil Nadu(7) | Andhra Pradesh Gujarat Himachal Pradesh Madhya Pradesh Maharashtra Rajasthan Tamil Nadu(7) | Andhra Pradesh Himachal Pradesh Madhya Pradesh Maharashtra Rajasthan Tamil Nadu(6) |
| (b) Medium 30-39% | Tamil Nadu Karnataka Gujarat Assam(4) | Gujarat Orissa(2) | Gujarat Karnataka(2) | Karnataka Kerala Punjab(3) | Gujarat Karnataka Punjab(3) |
| (c) Low 20-29 % | Bihar, Orissa Haryana Kerala(4) | Haryana, Kerala Punjab Uttar Pradesh(4) | Bihar, Orissa Punjab | Bihar, Haryana Orissa Uttar Pradesh(4) | Haryana, Kerala Orissa Uttar Pradesh(4) |
| (d) Very Low Below 20 % | Uttar Pradesh Punjab West Bengal(3) | Bihar West Bengal Assam(3) | Haryana West Bengal Assam(3) | West Bengal Assam(2) | Bihar West Bengal Assam(3) |

7 Factors Influencing Female Work Participation

Various factors such as age, marital status, education, social group, religion, household income, area of land cultivated by the household, number of children in the household etc., influence the level of female WPRs. The available data on these correlates are discussed below to understand the variation in female WPRs associated with such factors.

(a) Age-Specific Worker Population Ratios

Age of an individual is a key variable that determines his or her social role. After a stage of schooling or minimal acquisition of skills, the adolescents or youth are expected to pursue either economic activities and/or assume the responsibilities of family formation involving reproduction and the rearing of children. There is an extensive debate whether the economic value of latter activities should be quantified and be considered a part of the gross national product, partly because of the overwhelming role of women in the activities relating to household management. In many households, however, women shoulder the additional responsibility of economic activities; and therefore, sex and age patterns of participation in work or labour force merit careful attention.

Censuses upto 1931 had made no attempt to tabulate the data on the economic activities of population according to age. The 1951 Census tabulated an approximately 10 per cent sample of the non-displaced population and all the displaced persons by livelihood classes as well as 10-year age groups in age 5-74, and three other age groups of below 1, 1-4, and 75 and over. Unfortunately, the economically inactive or the "non-earning dependents" in an age group were lumped with others;¹⁸ and the data cannot be used to estimate age-specific economic activity rates or WPRs. Some tables were subsequently compiled from an approximately 2 per cent sample of rural slips and a 10 per cent sample of slips for all or selected urban areas of the three States of Mysore, Uttar Pradesh and West Bengal;¹⁹ they provided some idea of the sex-age-specific WPRs and the sectoral distribution of workers by age.

The 1961 Census of India was, therefore, the first to classify the entire population into workers and non-workers, and workers into nine industrial categories, both by broad age groups 0-14, 15-34, 35-59 and 60 and over. Unfortunately, the age groups were too broad to indicate the age pattern of labour force participation or the shift in the sectoral distribution of workers by age. More detailed data on workers by age were essential also to attempt labour force projections. Accordingly, in the late 1960s, a collaborative project was undertaken by me (at the Department of Economics, University of Bombay) and the Office of the Registrar General, to compile special tables from the unpublished records of the 1961 Census. The purpose was to estimate: (i) the WPRs and (ii) the distribution of workers into nine industrial categories by sex, five-year age groups, and marital status, in the rural and urban areas of some States of India. The requisite tables have been compiled for Bihar, Himachal Pradesh, Maharashtra, Punjab

¹⁸ For an excellent analysis of the economic concepts of the 1951 Census, see Daniel and Alice Thorner, *Land and Labour in India*, Asia Publishing House, Bombay, 1962, pp. 151-163.

¹⁹ The reorganization of States in 1956 has modified the boundaries of Mysore (now Karnataka) substantially and those of West Bengal slightly.

and West Bengal (according to their 1961 territorial boundaries). These States together covered a population of 142.6 million, i.e., about 32 per cent of the total population of the country in 1961. The States were selected on grounds of availability and condition of the Census records, as well as, the level of female participation rates reported in the Census, which were the focus of attention. The worksheets for the compilation of the 1961 Census table on the distribution of population by age and marital status formed the basis of the additional tables. The entire project was tailored to avoid re-sorting of Census slips for individuals because of cost considerations. It was not possible, therefore, to estimate the number of unemployed by various characteristics. The special tables for males in Maharashtra did not include marital status as a variable; but for other States, for which tables were compiled later, marital status was retained as a variable for both sexes.²⁰

Beginning with the 1971 Census, the tabulations distinguish between age groups 0-9, 10-14, 15-19, four ten year ages groups over the age span 20-59, and 60 and over. Also, the data relating to females are cross-tabulated by marital status. Unfortunately, the substantial under-enumeration of female workers in the 1971 and the 1981 Censuses has limited the interest in a detailed analysis of these data.

In the NSS, the exigencies of manual tabulation initially limited the age-specific data relating to the 1972-73 survey. However, when the data were re-tabulated for a paper by K.C. Seal,²¹ presented in a workshop in Trivandrum during July, 1980, six age groups were used: 5-9, 10-14, 15-29, 30-44, 45-59 and 60 and over.

Broadly, the same practice was followed in 1977-78 and 1983, except that in 1977-78 the age groups 5-9 and 10-14 were combined. In the 1987-88 survey (43rd Round), the tabulations have distinguished five year age groups over the age span 5-59 and then combined all persons aged 60 and over.

The WPRs based on the 1961 Census data, re-tabulated under the special project, can be compared with the 1987-88 estimates to assess the extent to which the age-patterns of work-participation have changed over the intervening years. Further, one can also study the differences between the age-specific WPRs of 1961, estimated for India as a whole²² on the basis of the Maharashtra pattern, and the 1987-88 data for the country as a whole. A corollary can be to examine the WPRs estimated by the four quinquennial surveys of the NSS.

²⁰ The project of generating additional tables from the 1961 Census data to obtain WPRs by five-year age groups was initiated with the hope that subsequently, the 1971 Census tables would permit a comparative study to discern and evaluate the changes over time. The unfortunate non-comparability between the data of the 1961 and the 1971 Censuses relating to the female working force prevented the realisation of the earlier objectives. However, the 1961 Census tables generated from the project made it possible to attempt a fairly refined labour force projection for the country as a whole. See: Visaria, Pravin, 1970, "Estimates of Participation Rates and Labour Force, Including and Excluding Unpaid Family Workers, for India, 1961-81", Appendix V in the *Report of the Committee of Experts on Unemployment Estimates*, Planning Commission, New Delhi, pp. 153-183.

²¹ Seal, K.C., 1981, "Women in the Labour Force in India: A Macro-Level Statistical Profile" in: ILO, *Asian Employment Programme*, Asian Regional Team for Employment Promotion (ARTEP), *Women in the Indian Labour Force: Papers and Proceedings of a Workshop*, Bangkok, pp. 21-92.

²² Visaria, Pravin, 1970, "Employment and Unemployment in India: A Review of Selected Statistics", Appendix II, *Report of the Committee of Experts on Unemployment Estimates*, Planning Commission, Government of India, New Delhi.

(i) The All-India Age Pattern of WPRs

Figure 5 and Table 7.1 (for females only) show the age-pattern of WPRs by sex and rural-urban residence, reported by the 1987-88 survey and the earlier estimates based on the re-tabulated 1961 Census data for Maharashtra. The more recent 1987-88 values for urban females are all higher than the estimates for 1961; they reflect the changes that have occurred over the past quarter century. For rural females, the 1987-88 values in the age group 10-24 are lower and those for ages 25 and over are higher than the 1961 estimates. To a considerable extent, the decline in WPRs in ages 10-24 is really a result of the rise in school and college enrollments, but it is also possible that the procedure followed in the earlier estimates, involving an uniform adjustment for all the four age groups in the broad age range 15-34, was not quite satisfactory. This conclusion is suggested also by the data for rural and urban males in the age ranges 10-24 and 55 and over, where the WPRs seem to have declined.

(ii) The NSS Data on WPRs by Broad Age Groups, 1972-73 to 1987-88

While searching for further evidence on the subject of age-specific WPRs, including both principal and subsidiary workers and also for principal status alone, we have examined the data shown in Table 7.2. Estimates for four Rounds -1972-73, 1977-78, 1983 and 1987-88 - are compared. It is evident that over the prime working ages of 15-59, the decline between 1983 and 1987-88 in female WPRs including both principal and subsidiary status workers was greater than that in the WPRs based on only the principal activities. In other words, the proportion of subsidiary workers engaged in rural economic activities seems to have declined presumably because of the relative paucity of work opportunities during a year of severe scarcity. The percentage of rural women working in terms of their principal activity had actually risen a little over the ages 30 and above. Among urban women, the percentage of workers in terms of principal activity and that including both principal and subsidiary workers did not move in the same direction in all age-groups. The urban FWPRs seem to be somewhat erratic.

(iii) State-Level Patterns

The data for five States presented in Figures 6-10 exclude estimates for urban Punjab because the relevant 1961 values have not been traced. On the whole, the estimates based on the 1961 Census seem smoother than those based on the 1987-88 survey because of the constraints imposed by the relatively smaller size of the sample.

In Bihar, the rural FWPRs for 1987-88 are all lower than in 1961, whereas, the opposite is the case for Punjab and West Bengal. For Himachal Pradesh, which had reported a very high FWPR in rural areas in 1961, the 1987-88 territorial boundaries have changed. However, the broad pattern has not changed.

As shown in Table 7.3, the aggregate measure of gross length of working life shows that the GYWL estimates for males have generally remained stable. However, there has been a decline between 1961 and 1987-88 in the number of years likely to be spent at work (over the age span 10-59) among females in rural areas of Bihar, Himachal Pradesh and, to a small extent, also Maharashtra. In Punjab and West Bengal, the GYWL of rural females was higher in 1987-88 than in 1961 because of higher proportions of workers estimated by the NSS. For rural India as a whole, the GYWL of females appears to have risen by just about one year.

In urban areas, the gross length of working life of females shows a rise in Maharashtra, West Bengal and Himachal Pradesh and also India as a whole (for urban Punjab, we do not have any estimate for 1961). These are plausible trends. They are consistent with the rise in the proportion of "educated" women in urban areas and the inflationary pressures on the "middle class" households aspiring for a comfortable level of living to become at least a two-earner family.

More than two decades ago, late Professor John Durand had analysed the age patterns of participation by females in the labour force in over 80 countries. As noted by him, the life cycles of female participation in the labour force are related to the life cycle of marriage and the family.²³ On the basis of my estimates of labour force participation rate of Indian women in 1961, Durand had identified the Indian pattern of economic activities by women as showing a central peak or plateau, similar to that in Thailand. The 1987-88 data for both rural and urban areas of India suggest the continuation of a broadly similar pattern in the country.

(b) WPR and Marital Status

The collaborative project of the University of Bombay and the Office of the Registrar General, noted above, had focused specially on the differences in female WPRs by marital status, which is another important variable influencing FWPRs. The 1961 Census data²⁴ for five States for females and for four States for males has provided the marital status specific WPRs for different age-groups; pooled results for all the States are shown in Table 7.4. Considering all the persons aged 10 years and above, the divorced and separated females (who can be presumed to be the most disadvantaged with respect to sources of support) had the highest WPRs in both rural and urban areas. Their WPRs rose with age up to about 40 years and then declined steadily in higher ages. The highest figures of WPRs were 70 per cent among rural females and 55 per cent among urban females, both in the age-group 35-39 years. An almost similar pattern was observed for females in other marital status, categories both in rural and urban areas of the five States. The males also showed a similar pattern. Figures 11 and 12 show the WPRs for five States by rural-urban residence. The results are summarised in the form of gross years of working life over the age span 10-59 in Table 7.5 for five States together for females and for four States for males.

The range of differences in GYWL by marital status was smaller for rural females than for urban females. However, in both rural and urban areas, the WPRs and the GYWL were the highest for divorced and separated and the next highest for the widows. The difference between the two other categories, the never married and the currently-married was negligible in rural areas but large in urban areas and in both cases, the currently-married reported a lower level of work participation than the never married.

Among males, on the other hand, the never married reported lower WPRs and GYWL than men in the other three categories. The never married probably included a significant proportion of students who did not work. The differences in GYWL in the other three marital status categories were small; but the divorced and separated males

²³ Durand, John D., 1975. *The Labour Force in Economic Development: A Comparison of International Census Data, 1946-1966*, Princeton, Princeton University Press, pp. 37-44.

²⁴ Visaria, Pravin, 1983. "The Level and Nature of Work Participation by Sex, Age and Marital Status in India", *Economic and Political Weekly*, Vol. 18, No. 19-21, Annual Number.

reported a low level of work participation than the married or the widowers. The divorced and separated women, on the other hand, generally do not receive any significant alimony and are forced to work. A large number of widows also face a similar problem and pressure to earn a living.

The 1987-88 survey results do not provide WPRs by age and marital status. However, as a quick proxy for age-standardization, it has provided estimates of WPRs by marital status for the age group 15 and over. The results are shown in Table 7.6 and Figure 13. In rural India, the currently married females reported the highest WPRs, the widowed and divorced had the second highest WPRs and the never married had a lower WPRs. In urban India, on the other hand, the widows and divorced women had a higher WPRs than the other two groups and the never married had the lowest WPRs. The male WPRs by marital status based on the NSS data, show much larger differences than the female WPRs because the widowed and divorced include a high proportion of the elderly. Similarly, the never married aged 15 and over include a high proportion of students and some disabled persons as well.

(c) WPRs of Females by Educational Attainment

Educational attainment is generally an important variable influencing the level of female WPRs. A rise in the level of literacy and education is expected to raise the level of WPRs. To help examine the validity of this hypothesis, Table 7.7 and Figure 14 show the female WPRs by education. Age group 0-14 is excluded from consideration as a means of achieving broad comparability of the age - profile of different groups. In rural areas, the female WPRs generally decline with a rise in the level of education, with a faint indication of a rise among graduates. Among urban females, the WPRs show a flat U-shaped pattern with educational attainment. Prima facie, therefore, a rise in literacy upto only the middle school level of education may well lead to a decline in the female WPRs, unless the demand for their labour time rises.

The data for different States are summarised in Appendix Table A.1. They show a roughly similar pattern. The deviations probably reflect the constraint of small sample size.

The data for males show a pattern similar to that of females, with one important difference that the illiterate and literate persons with education up to only the primary level had reported an almost identical level of work participation. A tendency towards a U-shaped pattern emerges because graduates had a higher WPR than those with only secondary education. (The LFPRs, including both workers and the unemployed, are likely to strengthen the U-shaped pattern).

The matriculate and graduate women in urban areas reported higher WPRs than women with only middle school education probably because of the high opportunity cost of their not taking up a job. The WPRs of rural graduate women did not rise above the average because of the paucity of appropriate work opportunities. The rural women graduates also have more limited contacts required for job search. We shall later see some evidence on these issues in the form of unemployment rates by educational attainment.

(d) FWPR and Caste/Tribe Status

Over the past several centuries, upper caste Indian women have generally avoided participation in economic activities outside the home. Widows and others facing

extreme situations have sometimes deviated from this norm. The lower caste women have participated in work in family enterprises, including cultivation, outside the home.²⁵ However, only some select groups of them have taken up wage or salaried employment on the farms or in the homes of better-off households with large landholdings.²⁶ Commercialisation and monetisation of the rural economy along with the subdivision of land holdings leading to a rapid growth of the ranks of small and marginal farmers have changed the situation in many villages and wage employment (often as casual labourers) is more commonly accepted. The inter-caste differences in this respect merit a careful study.

After Independence, caste-specific data are limited to only the scheduled castes, tribes and others. Appendix Table A.2 and Figure 15 show the female and male WPRs for three social groups, of 'Scheduled Tribes', 'Scheduled Castes', and 'Others' on the basis of the 1987-88 data of the NSS. The ST and SC households form the socially and economically disadvantaged groups. In most of the States and India as a whole, ST women in both rural and urban areas reported the highest WPRs, the SC women came next and the non-scheduled women reported the lowest WPRs. The States where SC rural females reported the highest WPRs were: Assam, Himachal Pradesh, Karnataka, Kerala and Punjab. The urban female WPRs were the highest among the SCs in Kerala, Madhya Pradesh, Rajasthan and Uttar Pradesh.

On the whole, the data confirm the impression based on tradition. The share of the STs in the population is often an important variable influencing the reported FWPR(s). In 1961, the Census data for West Bengal had indicated a FWPR of 10.6 per cent for rural females. When Purulia district, where about 21 per cent of the population belongs to STs, was excluded, the rest of West Bengal had a FWPR of only 9.1 per cent. The scheduled tribes have a tradition of greater equity between the sexes. The excess of males seen in the Indian population as a whole since the beginning of the decennial Censuses was the least or non-existent (with an excess of females) among the tribals or animists.²⁷

(e) WPRs and Religion

There is widespread interest in female WPRs by religion. The 1987-88 data of the NSS constitute a good source of estimates on this subject. The WPRs of both males and females for rural and urban India are presented in Table 7.8 and Figure 16.

The Zoroastrian, Buddhist and Christian women have reported higher WPRs than their sisters professing other faiths. Muslim women have reported the lowest WPRs in

²⁵ Mandelbaum has noted the differences in the activity pattern of women from Brahmin and Adiravida castes in Tamil Nadu. See: Mandelbaum, David G., 1970. *Society in India*, Vol. 1, *Continuity and Change*, Vol. 2, *Change and Community*, University of California Press, Berkeley.

²⁶ Martha Chen suggests a four-fold classification of households according to whether their social status permits their women to "take part in any outdoor activities". The high caste women take little or no part in such activities. The peasant caste women undertake mainly domestic duties but work in their own fields. The third group of middle castes allow women to take up wage-paid employment in the busy season. Only the women of the lowest castes regularly take up paid work to support their families. See: Martha Chen, 1995, "A Matter of Survival: Women's Right to Employment in India and Bangladesh", in: Nusshbaum, Marth, and Jonathan Glover (Eds.), *Women, Culture and Development: A Study of Human Capabilities*, Oxford University Press, New York.

²⁷ Visaria, Pravin, 1971. *The Sex Ratio of the Population of India*, Op. Cit., pp. 6-8. The absence of excess of females among the tribals is sometimes "rediscovered" by analysts who do not study the historical data.

rural areas: their urban sisters had a higher WPRs than only the Jains and the small miscellaneous group of "others".

The Zoroastrians or Parsis are a highly westernised but numerically a very small religious group, with a below replacement level of fertility for a long time. The number of Parsi households interviewed in the 1987-88 sample was only 11 in rural India and 53 in urban India and the estimated WPRs may not be stable. A very large proportion of the Buddhists, on the other hand, are the former SCs and their high FWPR is consistent with the data by social group examined above. As for the differences in the WPRs of Hindu and Muslim women, 52 per cent of the Muslims tend to be concentrated in States such as Uttar Pradesh, Bihar and West Bengal with relatively lower female WPRs. Quite likely, therefore, region rather than religion is a more important determinant of the female WPRs.

(f) Female WPRs and Household Monthly Per Capita Expenditure (MPCE)

There has been considerable interest in assessing whether the FWPRs in India vary inversely with income of the household. The non-availability of income data limits the scope for ascertaining the actual situation. Indirect inferences based on the state-level income (or per capita state domestic product) do not provide dependable information.

The NSS uses household Monthly Per Capita Expenditure (MPCE) as a proxy for income. The relationship between WPRs and level of living or MPCE is examined in Appendix Table A.3 and Figure 17 at the all-India level. The expenditure groups used for urban areas are different from those used for rural areas. Rural females show little variation in WPRs with a rise in MPCE whereas, their urban sisters indicate a weak U-shaped pattern. The male WPRs rise with MPCE. To some extent, the MPCE level is correlated with educational attainment.²⁸ In some States, female WPRs tend to decline with MPCE particularly in urban areas. There may be some withdrawal from the work force by women with a rise in the MPCE or the income level of the household.

(g) WPRs and Size of Cultivated Land Holding

Land is the main asset of rural households. It is considered a key determinant of their income and level of living. Table 7.9 and Figure 18 (only for 1987-88) show the WPRs of rural females and males by area of land cultivated during 1983 and 1987-88. The estimates for 1983 have been derived from figures pertaining to persons aged five and over on the assumption that the proportion of children aged 0-4 did not differ among households in different size classes of land holding.²⁹ The relationship may have been muted by the severe drought during 1987-88 despite our reliance on the data based on usual status. However, the variation in female WPRs was rather limited between 33 and 43 per cent in 1983 and between 31 and 35 per cent in 1987-88, with little difference among households cultivating one acre or more of land. The male WPRs also showed very limited variation by size of cultivated land holding. Once again, region or state

²⁸ Literacy rates rise with MPCE among both males and females. See: Visaria, Pravin, "Levels of Living in India: Correlates and Determinants", R.C. Dutt Lectures delivered at Centre for Social Science Studies, Calcutta, September 1995.

²⁹ Data for rural areas of Gujarat based on the survey of 1972-73 indicated a weak inverse association between the percentage of children aged 0-4 and size class of land holding. The percentages varied between 11.7 and 14.8 for males, 12.9 and 15.7 for females, and 12.3 and 15.3 for both sexes together. See: Visaria, Pravin, 1981. *Size of Land Holding, Living Standards and Employment in Rural Western India, 1972-73*. World Bank Staff Working Paper No. 459, Washington, D.C.

seems to be a more important determinant of the level of FWPR than the size class of land holding, partly because land is quite heterogeneous in quality and we have not adjusted for the size of the household.

(h) WPRs and Household Type

The income-related differences in female WPRs can be assessed also in terms of groups of households with alternative means of livelihood. The NSS distinguishes between households of various "types" identified on the basis of the major or main source of income of the members of the household. Rural households are classified into five types, self-employed in agricultural activities, self-employed in non-agricultural activities, rural labour, other labour, and others. Urban households are grouped into four categories: self-employed, those with a regular employment, those depending on casual labour, and others.

Appendix Table A-4 shows the WPRs of females and males based on the NSS 1987-88 data for India, as well as, the major States. Figure 19 presents the results for India as a whole. In rural India and in rural areas of most States, the female WPRs was the highest among agricultural labour households and next highest among the "other labour" households. However, in Himachal Pradesh and Rajasthan, the households self-employed in agricultural occupations reported the highest female WPRs. Among rural males, there was little difference in the WPRs by household type, except that households in the "other" category reported relatively lower WPRs. Quite likely, the latter households include a higher than average proportion of the elderly.

The WPRs of urban females were relatively higher in casual labour households than in other types of households in India as a whole and most of the States. They were very low among households of "other" category. A similar pattern is observed for urban males also. If households in the "other" category are excluded, the differences in WPRs by household type are much smaller among urban males than among urban females.

(i) WPRs According to Household Size and Number of Children, Western India, 1983 and 1987-88

Out of the key determinants of female participation in economic activity must be the number of children they have to look after and the availability of substitute help within the household. To examine the role of these factors, I have attempted a special tabulation of the 1983 and 1987-88 survey data of the NSS for Gujarat and Maharashtra, summarised in Table 7.10. The crude female WPRs in both rural and urban areas tend to decline with a rise in the size of the household, or an increase in the number of children aged 0-4, 5-9 and 10-14 in the household. There is some competition between child-rearing and economic activities with respect to women's time, although women who participate in economic activity also look after their children and in fact shoulder the burden of multiple roles. The drudgery of long hours of work of varied types performed by women is a stark reality in India.

(j) WPRs According to the Characteristics of the Head of the Household

A question arises whether female participation in economic activity is associated with headship of the household and related characteristics. The data suggest that FWPRs tend to be higher if the household has a female as its head or if the head of the household is widowed or divorced. (There is some evidence that the widowed or

divorced heads of households tend to have an over-representation of females and therefore, the two variables of sex and marital status of the head of the household tend to overlap).

On the other hand, a rise in the educational attainment of the head of the household is associated with a decline in the crude FWPRs (The relationship is examined with only a three - category classification of the level of educational attainment; illiterates, those educated up to primary school, and those with middle school or a higher level of education). The differences tend to be relatively wider in urban areas than in rural areas (See Table 7.10).

The type of family (nuclear as extended) has also been identified in terms of the number of married males in the households. Once again, a three category classification of households with (a) 0 or 1, (b) 2 and (c) more than 2 married males suggests that the FWPR tended to decline with a rise in the "extendedness" of the living arrangements. The differences were seen primarily in urban areas and not in rural areas. Further, both the crude WPRs and WPRs for ages 15 and above showed a similar pattern of differences. (Data for ages 15 and above are not shown in Table 7.10). Evidently, if the number of married males in the household is a reasonably good indicator of the degree of extendedness in living arrangements, the extended families do not seem to facilitate female participation in economic activities. They probably reflect either a degree of conservatism or a stage in the life cycle of the family when female members are less able to work than if they form nuclear families. (Or perhaps, the nuclear families may face greater financial pressures and might, therefore, have a higher proportions of their female members participating in economic activity). It might also reflect a life cycle factor if the female members of "nuclear" households are on an average older than those of extended households.

(k) WPR and Migration Status

Differentials in WPRs according to migration status are an under-researched subject and need some discussion here. The 1983 and 1987-88 surveys of the NSS on Employment and Unemployment have collected detailed information on the activity pattern of migrants. The migrants were defined as those who had a previous "usual" place of residence, different from the current usual place of stay (where they were being surveyed). The available results show WPRs according to usual principal activities of migrants and non-migrants. The relevant results are summarised in Table 7.11 for (i) lifetime migrants (based on the 1983 data), (ii) those who had migrated during ten years prior to the survey (based on the 1987-88 data) and (iii) those who had migrated during the five years prior to the survey (based on both the 1983 and the 1987-88 data).

Rural female migrants reported much higher WPRs than the non-migrants. The difference between the WPRs of migrants and non-migrants was more among the lifetime migrants than among migrants of the last ten or five years. A similar pattern is observed for both rural and urban males. However, urban female lifetime migrants also reported much higher WPRs than the non-migrants. These data are affected by the fact that the non-migrants include young children. If age-standardised WPRs could be estimated for migrants and non-migrants, the pattern may be different.

(I) WPRs by Size Class of Villages, 1991

Recently, the Office of the Registrar General has made available to the public the Primary Census Abstracts (PCAs) for all villages and towns, based on the 1991 Census. These PCAs include the data on "main" workers by 10 "industrial categories", the total number of marginal workers, the number of literates, and persons classified as scheduled caste and tribes, by sex. The data cover a total rural population of 627 million. It is possible to use these data to calculate worker-population ratios covering both "main" and "main as well as marginal workers" by size class of villages. One can also study the industrial category distribution of main workers (but not that of marginal workers) by size class.

According to these data, India excluding Jammu & Kashmir had a total of 580,819 inhabited villages. Almost 67 per cent of these villages had a population of less than 1000 but they accounted for 26 per cent of the rural population. At the other end, 2.3 per cent of the villages with a population of 5,000 and over accounted for 18 per cent of the population.

The average size of households did not vary significantly with size class of villages; it ranged between 5.4 and 5.9, with an average of 5.8. Similarly, the sex ratio or the percentage of males in the population did not show any noteworthy differences by size class of villages. The excess of males was a little less (sex ratio: 104) in the smaller villages with a population of less than 500 than in larger villages having between 3000 and 10,000 persons. (The 2,781 villages with a population of 10,000 or more showed a sex ratio below 103 because 37 per cent of these villages were in Kerala and the four South Indian States accounted for 60 per cent of these large villages. The deficit of females is below the national average in the four Southern States).

The female worker population ratios (including both main and marginal workers) show a decline with size class of villages. This is partly a reflection of higher proportions of STs among whom female WPRs tend to be higher than among the non-scheduled. Interestingly, the corresponding differences in male WPRs are negligible.

(m) Urban WPRs for Metro-Cities and by Size Class of Towns

In his analysis of the WPRs based on the 1961 Census, late Dr. J.N. Sinha³⁰ had noted a tendency for female WPRs to vary inversely with the size class of towns. The data from the NSS surveys of 1977-78, 1983 and 1987-88 for cities with a population of more than one million and three strata of smaller cities and towns (those with a population of (a) between 200,000 and 999,999; (b) between 50,000 and 199,999; and (c) less than 50,000), based on the usual status, as well as, the current status (or activities during the week preceding the date of survey) are summarised in Table 7.12. As expected, the WPRs according to the usual status were higher than those based on the weekly activity. The differences were particularly marked in the case of women; for men, the two sets of rates did not differ much. Also, the differences were smaller for women in metropolitan cities than for their sisters in smaller cities.

³⁰ Sinha, J.N., 1965. "Dynamics of Female Participation in Economic Activity in a Developing Economy", in: Office of the Registrar General, India, *Papers Contributed by Indian Scholars to the World Population Conference Belgrade, 1965*, New Delhi.

It is not easy to interpret the city-specific differences in female WPRs. They reflect a cumulative or combined effect of several factors, such as, the proportion of migrants in the population, the age, education and marital status composition of the population (influenced partly by the level of migration), the religious mix of the population, as well as, a certain regional effect reflecting the structure of the economy and the type of opportunities for work at home or in domestic chores in better-off households. The millionaire cities of India differ significantly with respect to all these factors and the available data at the disaggregated level are not adequate to discern the effect of different specific variables.

(n) Seasonality in Work Participation

A major stimulus for the adoption of the usual status approach in the NSS was the seasonal variation in WPRs, unemployment and even the industrial or sectoral distribution of workers. The 14th and the 15th Rounds of the NSS during 1958-59 and 1959-60 were planned with six and three visits, respectively, to the same set of sample households. They had indicated a significant seasonal variation because of the elasticity of demand for labour in agricultural operations in different parts of the year. Like other Rounds of the 1950s, the data did not shed any light on the interstate or inter-regional differences.

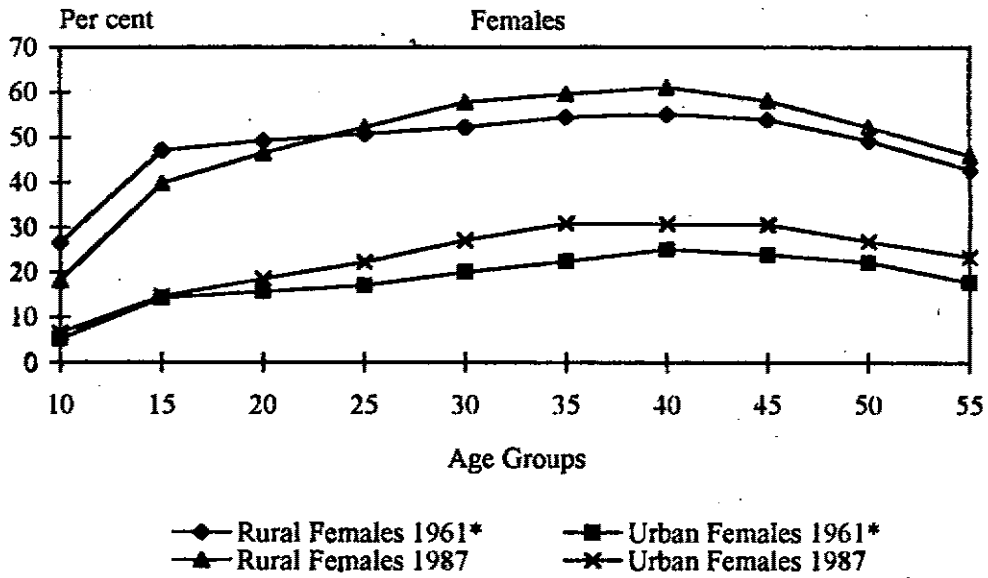
Beginning with the quinquennial surveys in 1972-73, the NSSO has generated for all India, as well as, for States, quarterly or "sub-round" estimates based on the current weekly and current daily status data. The four quarters or sub-rounds, July-September, October-December, January-March and April-June were presumed to correspond to seasons. The WPRs for both females and males aged five years and above for all-India based on the current weekly and daily status data of the four quinquennial surveys are presented in Table 7.13.

The data show considerable variation in the WPRs of rural females. The first half of the agricultural year (July to December) appears to be a busy period, whereas the second half (January to June) turns out to be a relatively lean period. Even the urban females reported some seasonal variation of the order 7 to 11 per cent in their WPRs while the WPRs for males in both rural and urban areas showed little seasonal variation.

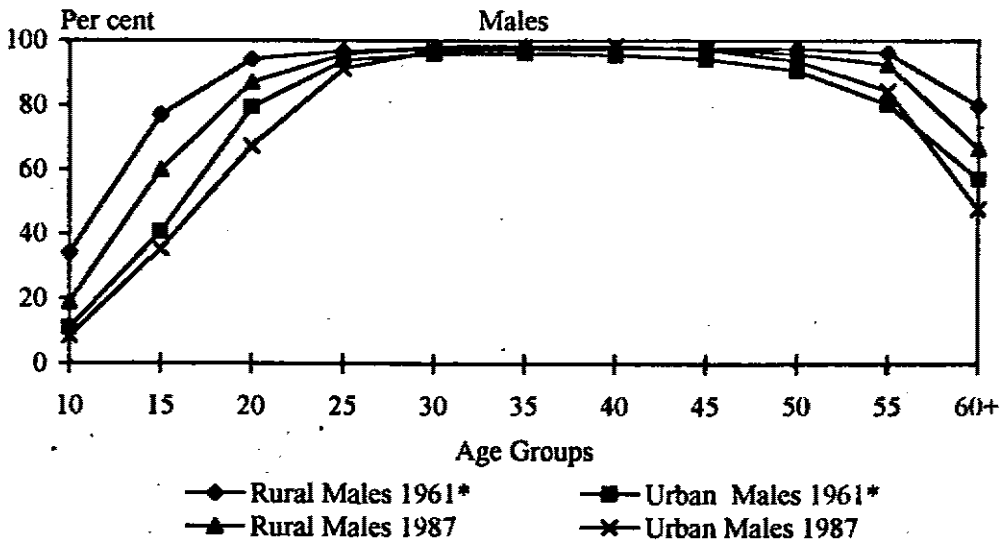
Such seasonality is averaged out in a survey spread over a full year. A cross-sectional survey with a short reference period would capture a partial picture, unless the usual status data are also collected.

The preceding discussion has focused on differences in female WPRs according to selected variables often observed to be associated with them. To control for the interaction effects and to assess the relative influence of each variable, we have presented in the next section a multivariate analysis of the household-level NSS data relating to female participation in economic activity in 1983 and 1987-88 (38th and 43rd Rounds) for the two States of Gujarat and Maharashtra.

Figure 5
 India: Worker-Population Ratios by Age for Males and
 Females, Estimates for 1961 and 1987-88



* Estimated from the Maharashtra



* Estimated from the Maharashtra Pattern

Figure 6
 Maharashtra: Worker-Population Ratios by Age for Males and Females, Estimates for 1961 and 1987-88

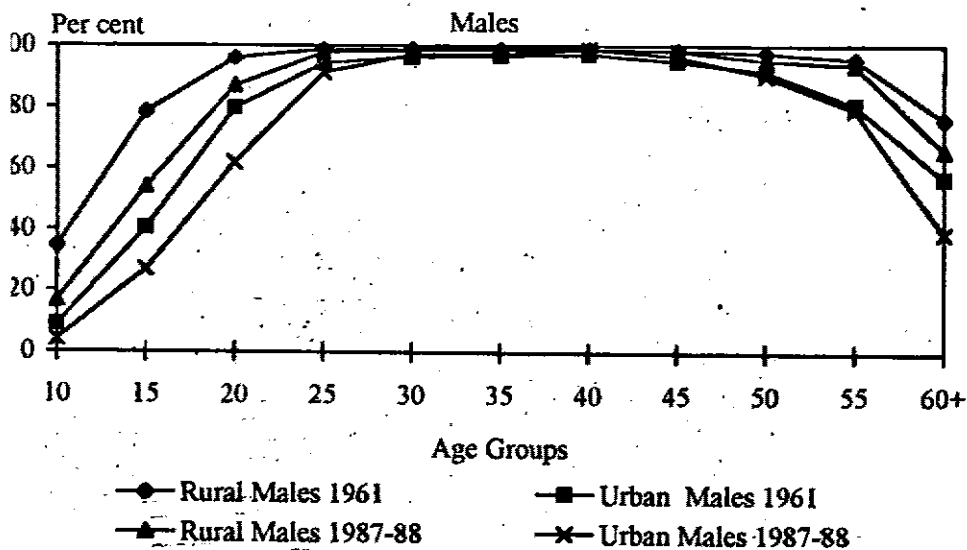
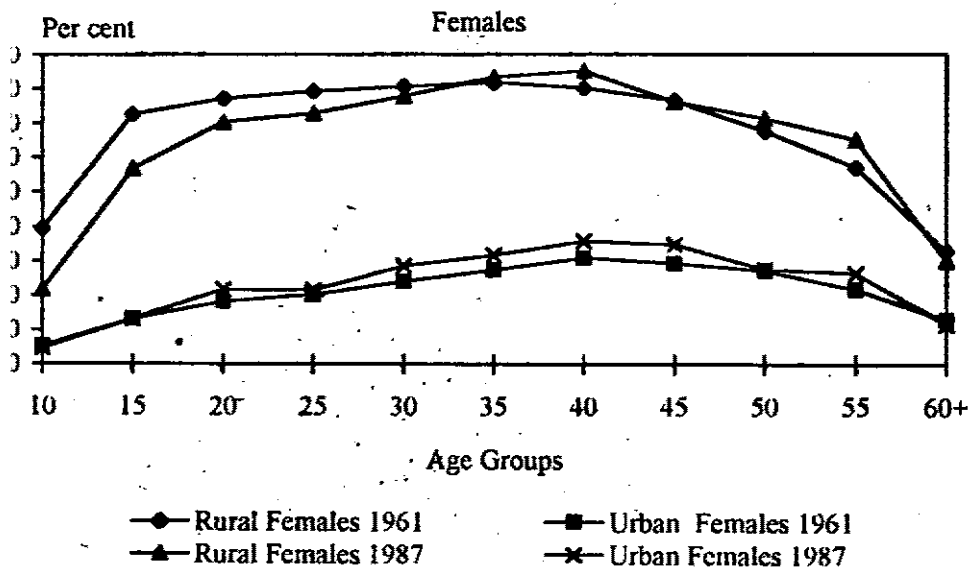


Figure 7
Bihar: Worker-Population Ratios by Age for Males and
Females, Estimates for 1961 and 1987-88

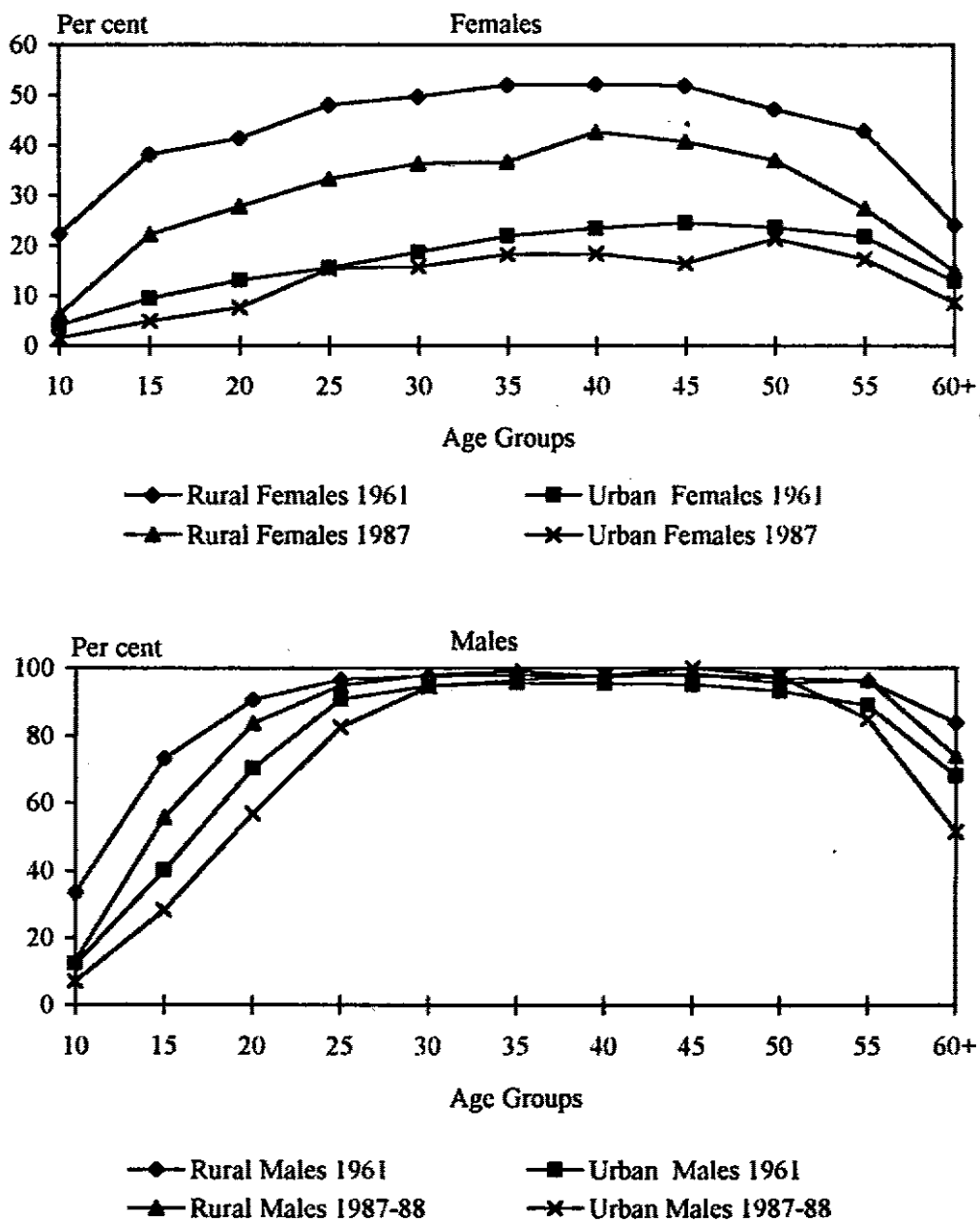


Figure 8
Himachal Pradesh: Worker-Population Ratios by Age for Males and Females, Estimates for 1961 and 1987-88

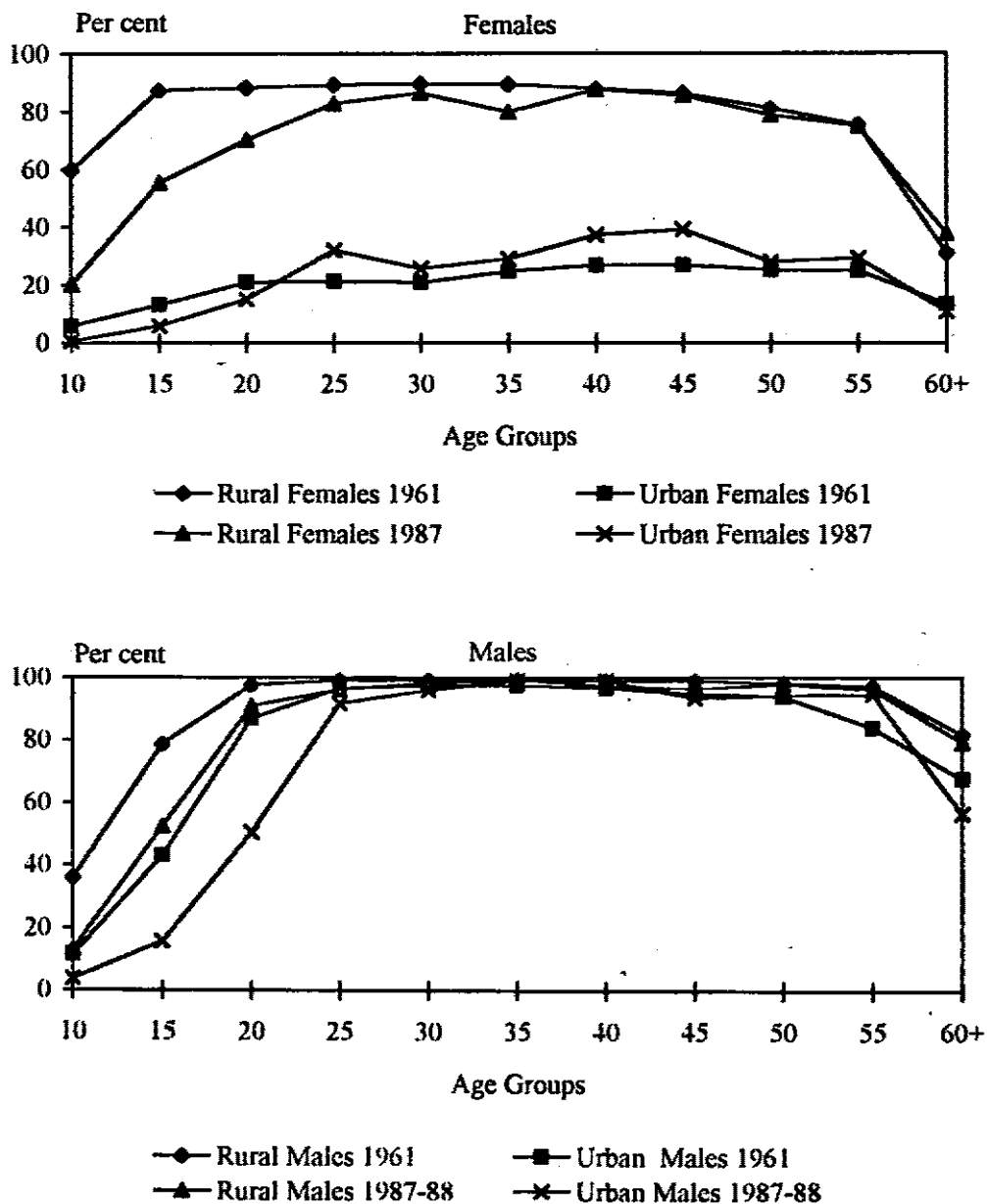


Figure 9
Punjab: Worker-Population Ratios by Age for Males and
Females, Estimates for 1961 and 1987-88

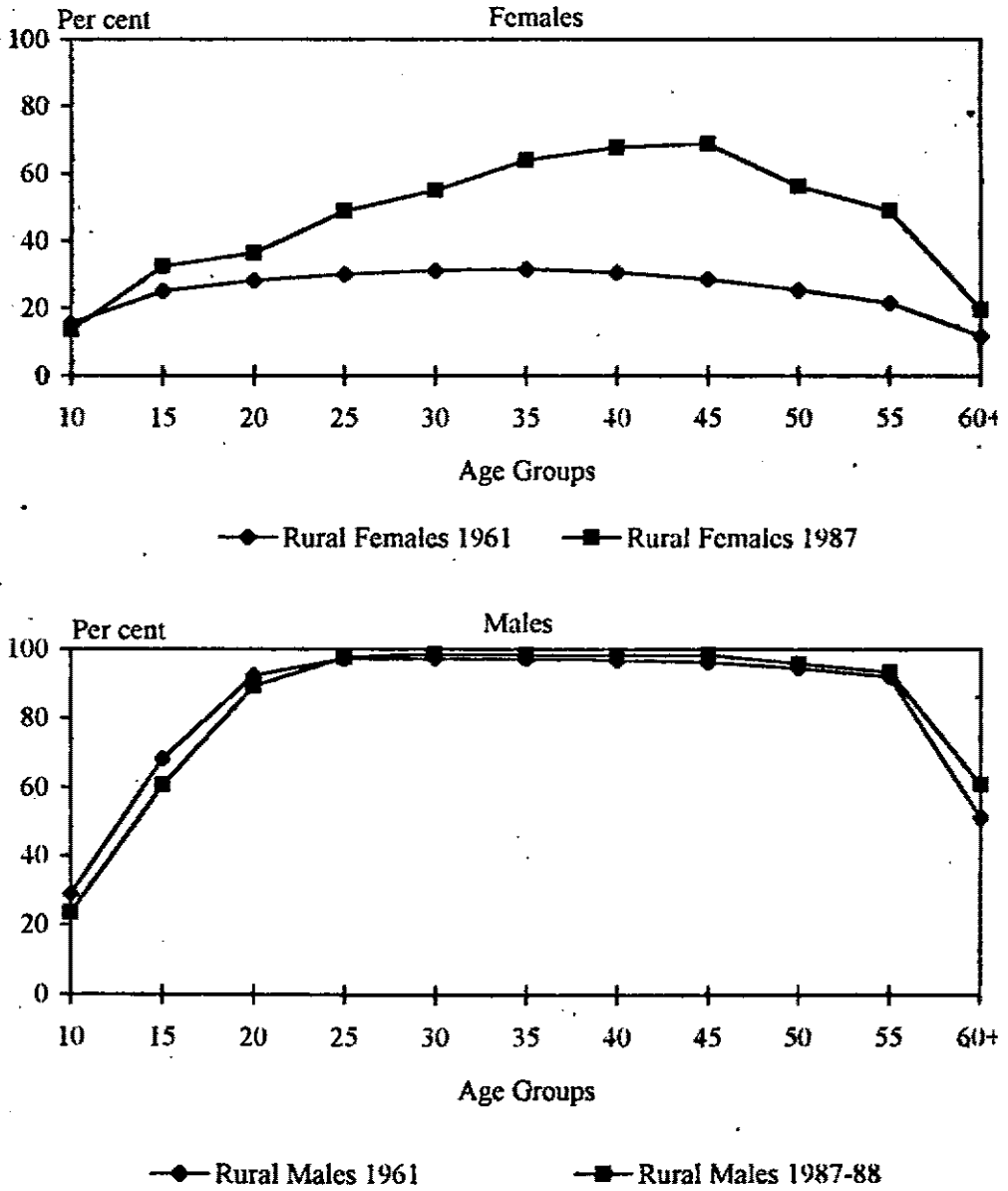


Figure 10
West Bengal: Worker-Population Ratios by Age for Males and Females, Estimates for 1961 and 1987-88

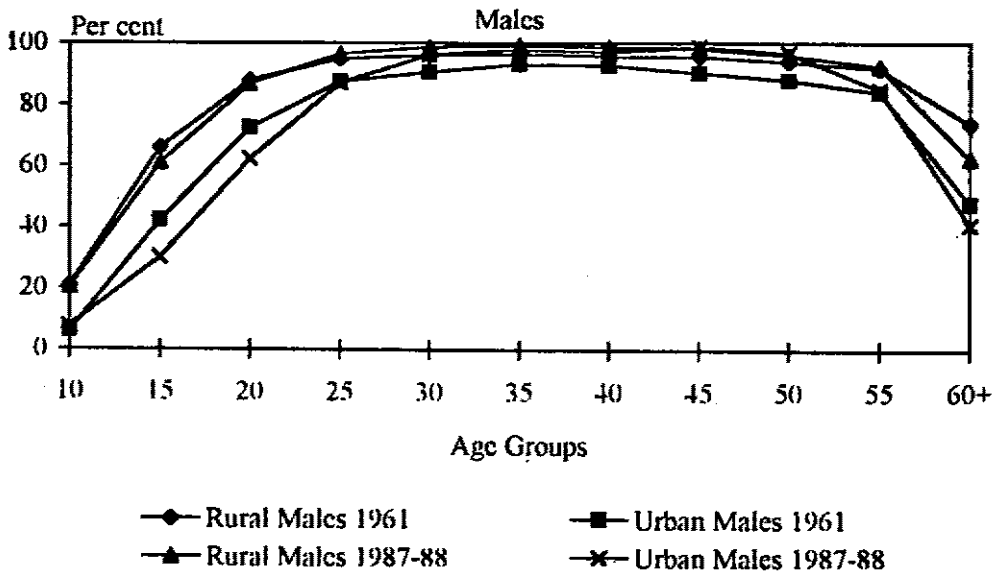
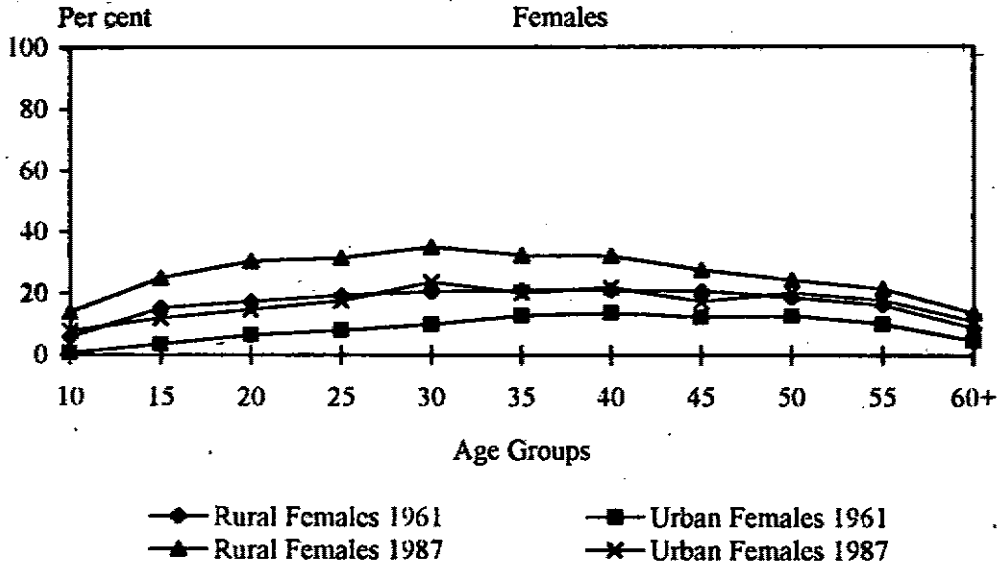


Figure 11
 Rural Areas: Worker-Population Ratios of Females Aged 10-59 by Marital Status and Age in Selected States, 1961

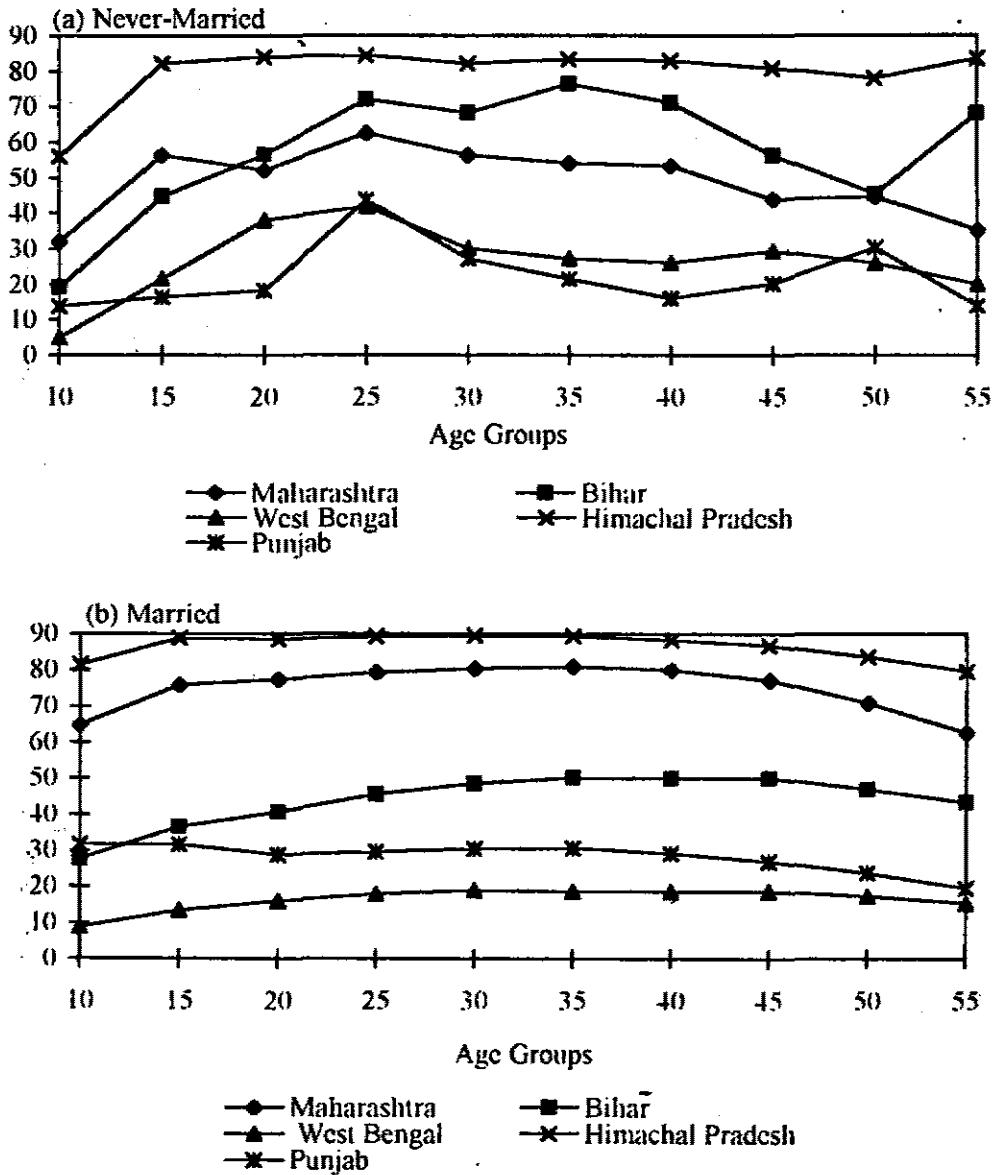


Figure 11 (contd.)

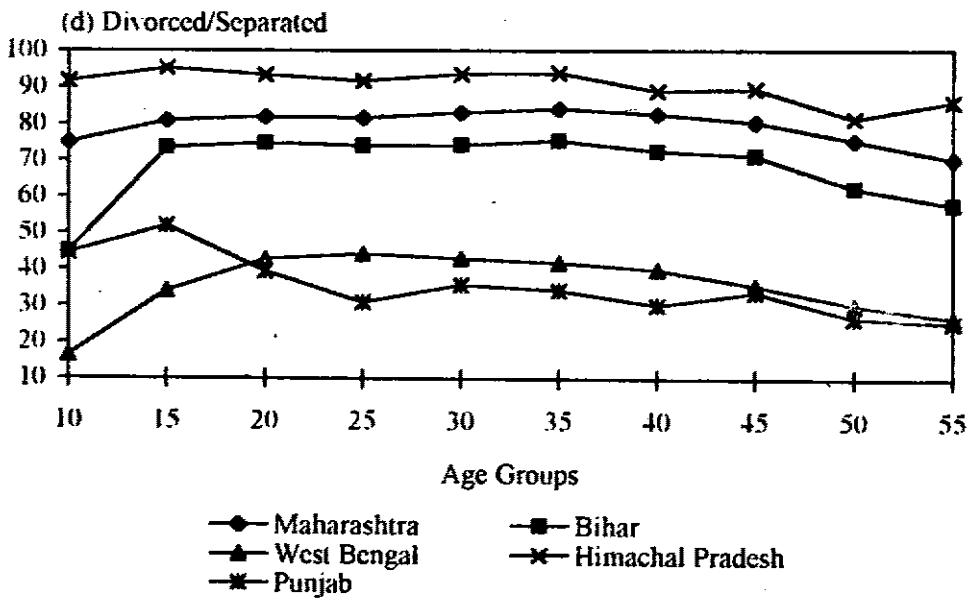
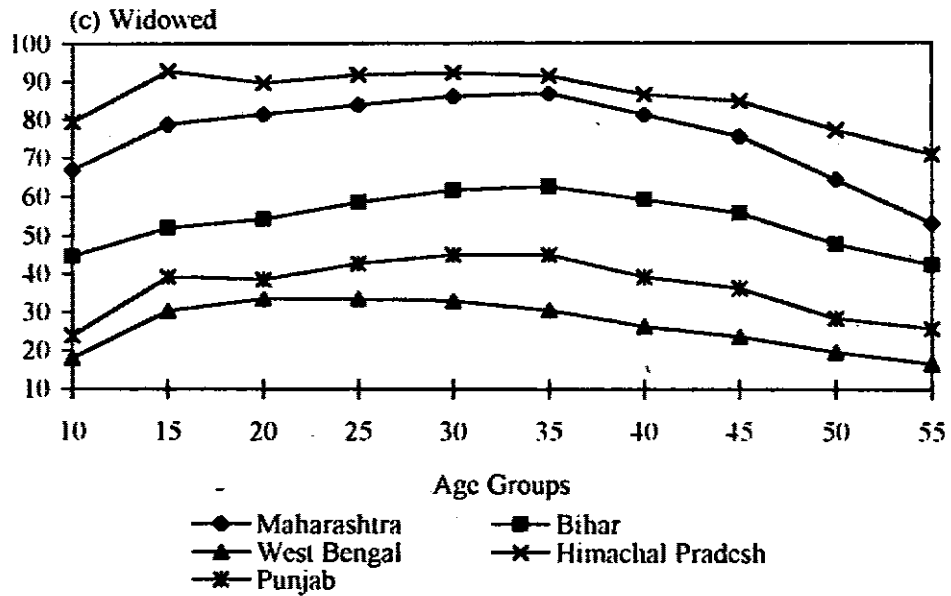


Figure 12
 Urban Areas: Worker-Population Ratios of Females Aged 10-59 by Marital Status and Age in Selected States, 1961

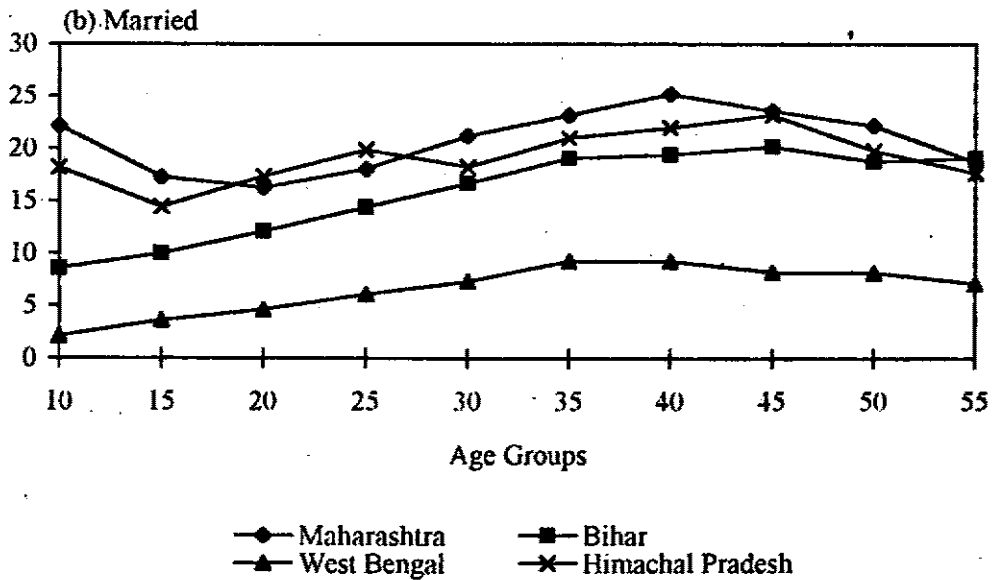
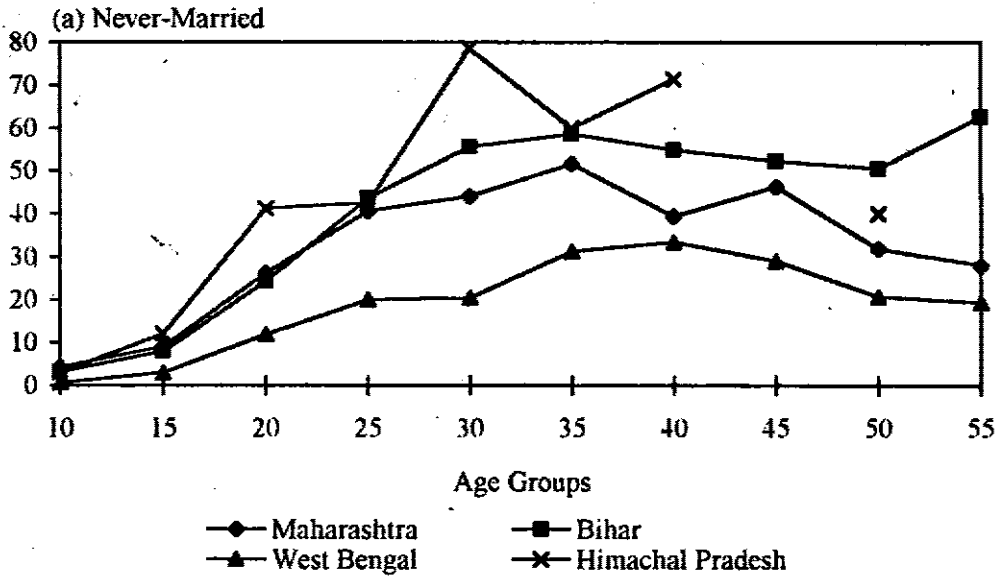


Figure 12 (contd.)

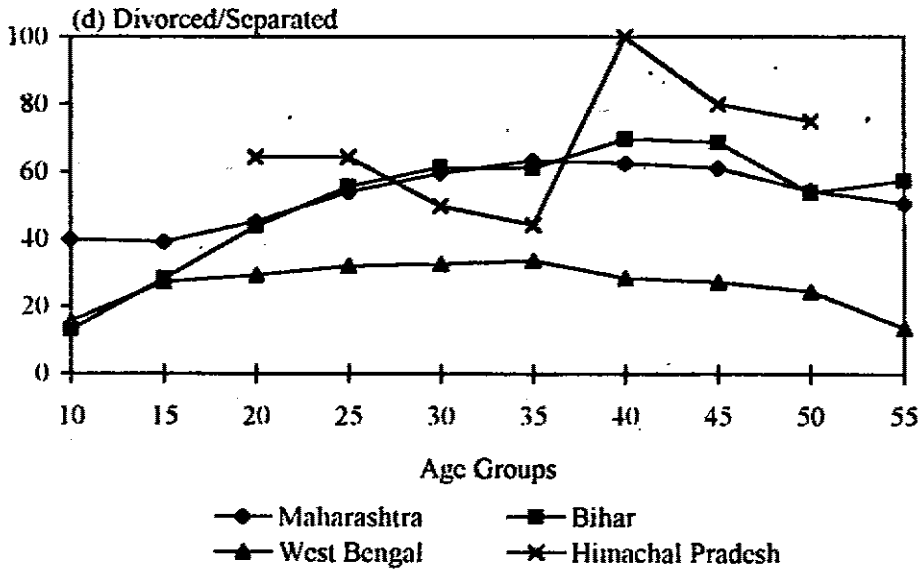
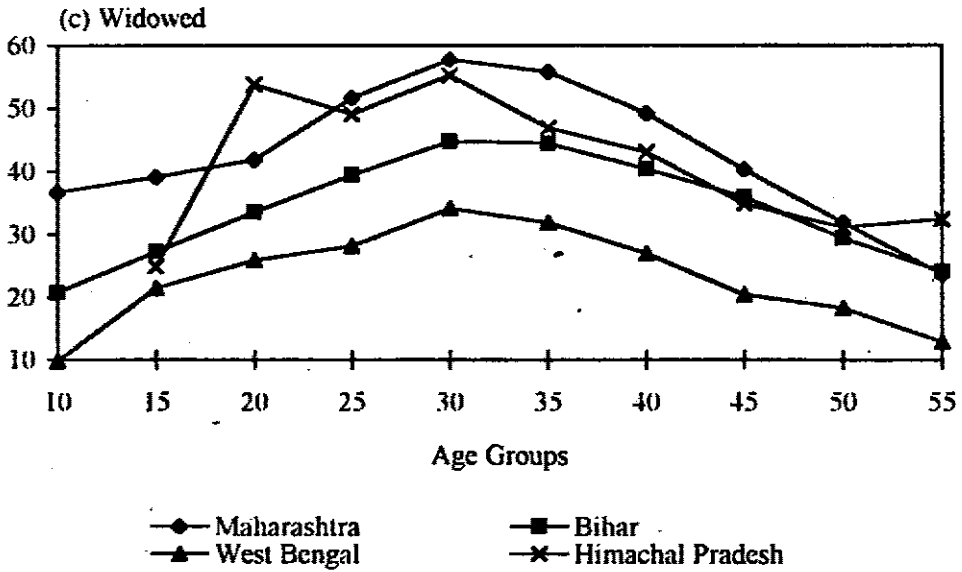


Figure 13
India: Worker-Population Ratios for Females Aged 15+ by
Marital Status, 1987-88

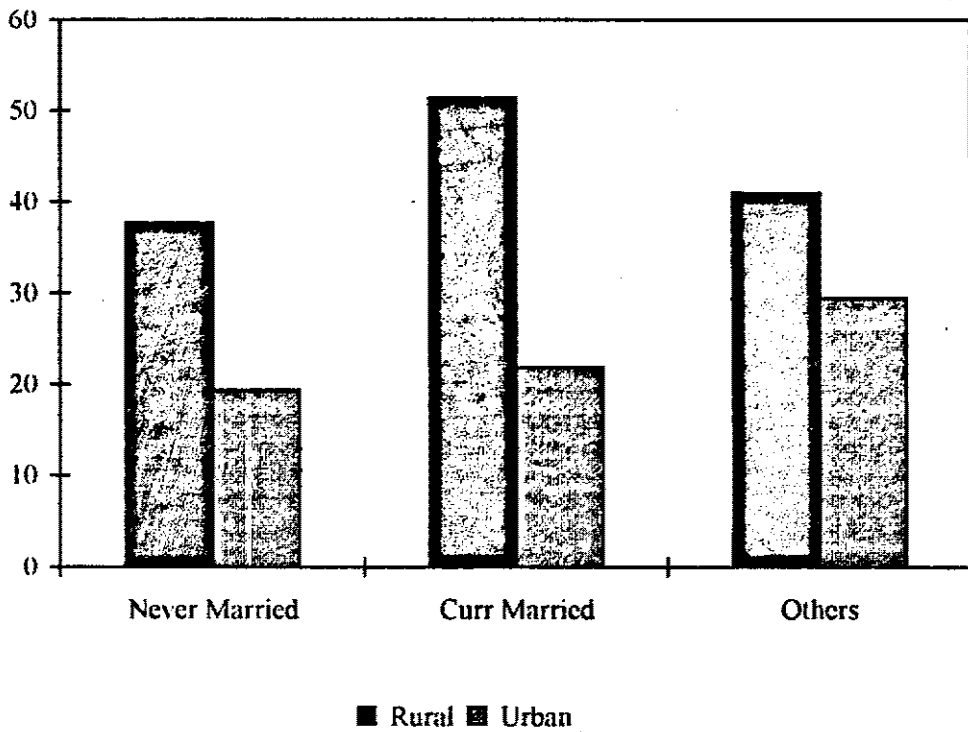


Figure 14
 India: Worker-Population Ratios for Population Aged 15+ by
 Rural-Urban Residence, Sex and Education, 1983 and 1987-
 88

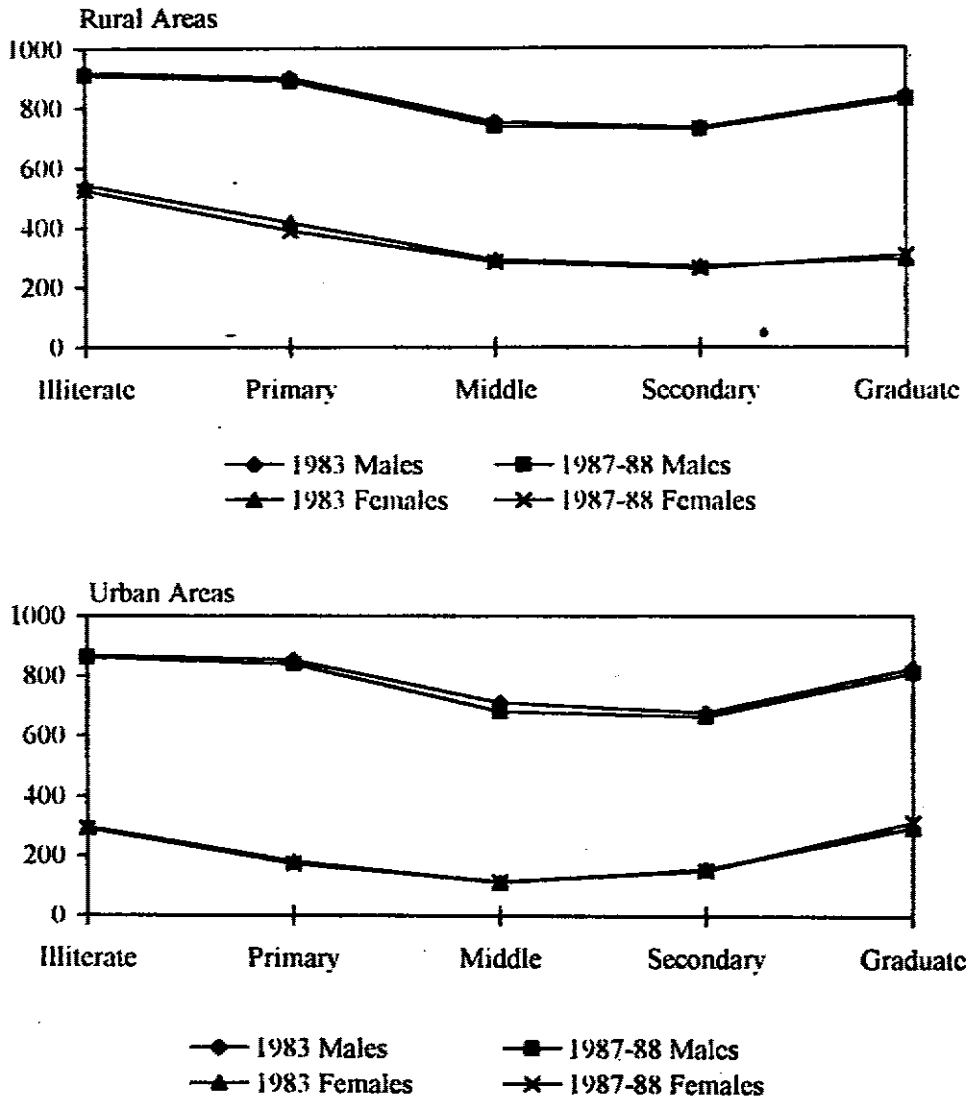


Figure 15
India: Worker-Population Ratios for Females by Social Group,
1987-88

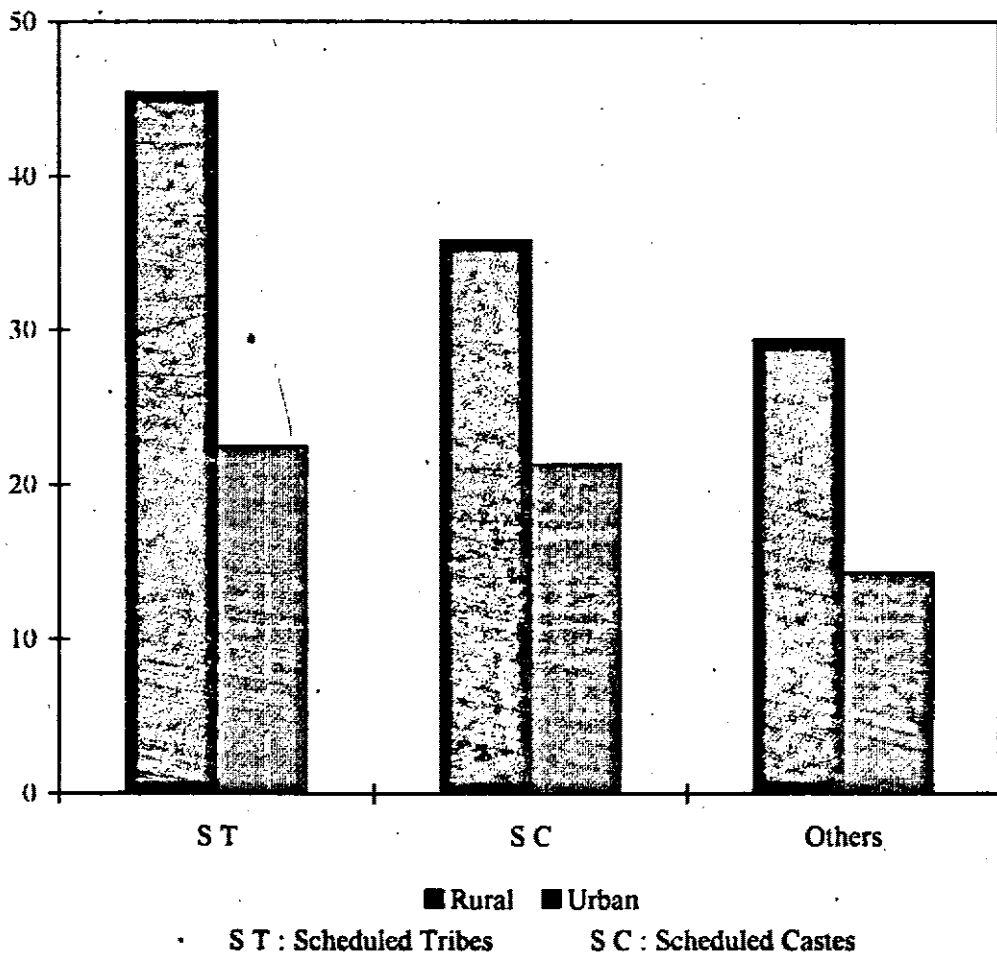


Figure 16
India: Worker-Population Ratios for Females by Rural-Urban Residence and Religion, 1987-88

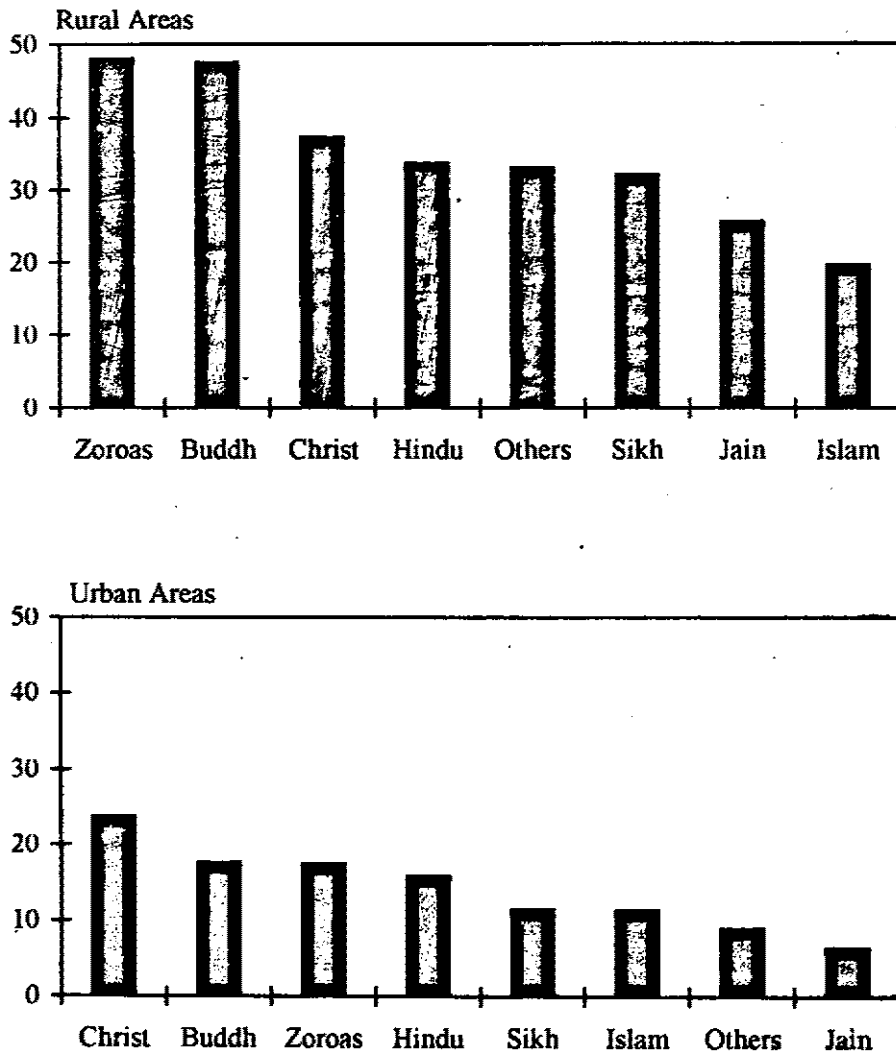


Figure 17
 India: Worker-Population Ratios by Rural-Urban Residence,
 Sex and Monthly Per Capita Expenditure, 1987-88

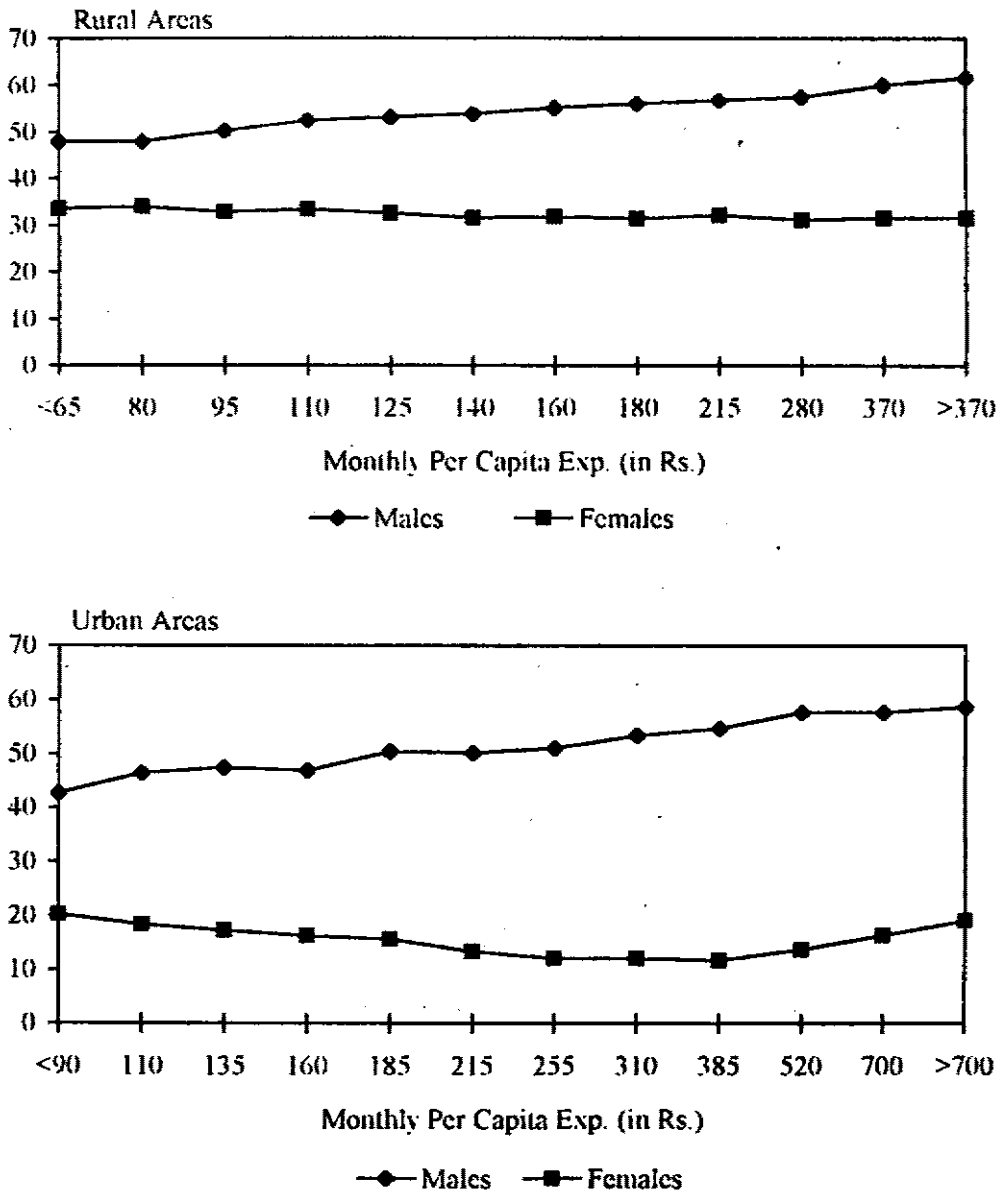


Figure 18
Rural India: Worker-Population Ratios by Sex and
Area of Land Cultivated, 1987-88

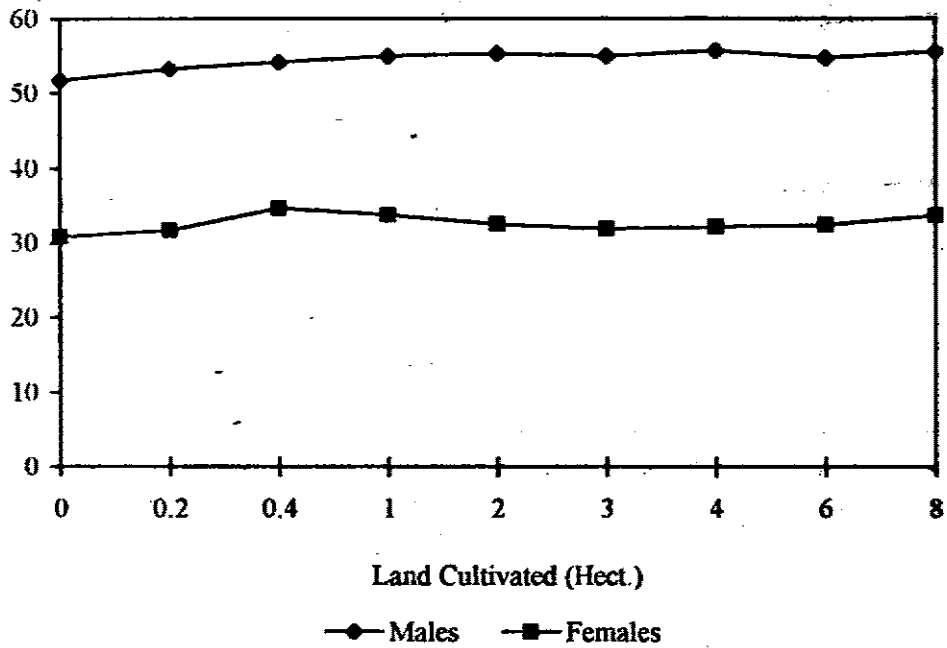
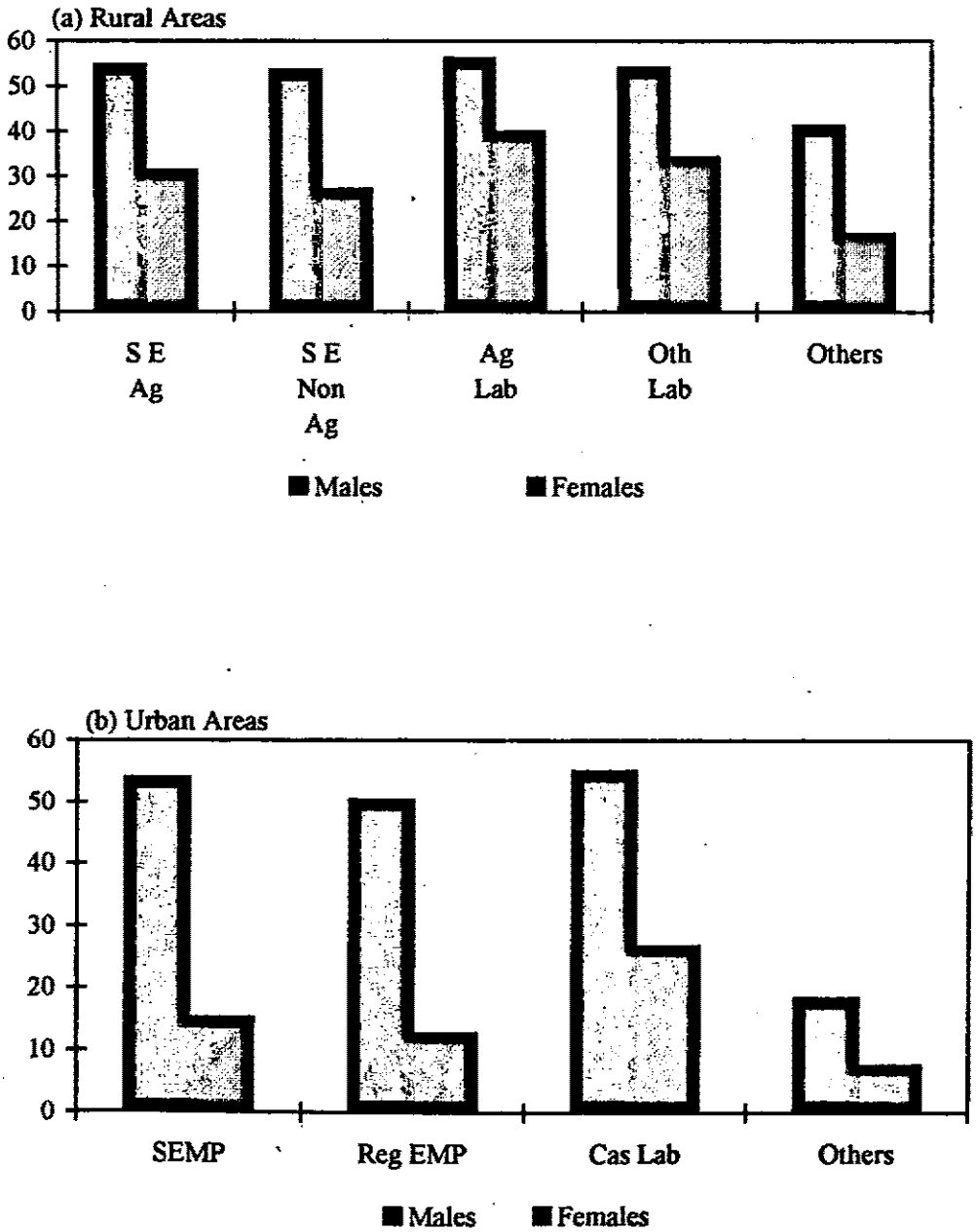


Figure 19
 India: Worker-Population Ratios by Rural-Urban,
 Residence, Sex, and Household Type, 1987-88



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Table 7.1: India: Estimated Worker-Population Ratios for Females in 1961. Based on the Retabulated Census Data for Maharashtra, and the NSS Estimates for 1987-88, by Rural-Urban Residence

| Age Group | Estimates based on Maharashtra Pattern | | NSS Estimates for 1987-88 | |
|--|---|------------|---------------------------|---------------|
| | Rural 1961 | Urban 1961 | Rural 1987-88 | Urban 1987-88 |
| Females | | | | |
| 10-14 | 26.7 | 5.2 | 18.2 | 6.5 |
| 15-19 | 47.2 | 14.4 | 39.9 | 14.6 |
| 20-24 | 49.3 | 15.6 | 46.5 | 18.5 |
| 25-29 | 50.8 | 17.0 | 52.3 | 22.3 |
| 30-34 | 52.3 | 20.0 | 57.7 | 27.2 |
| 35-39 | 54.5 | 22.4 | 59.6 | 30.9 |
| 40-44 | 55.1 | 25.1 | 61.0 | 30.8 |
| 45-49 | 53.9 | 23.9 | 58.0 | 30.6 |
| 50-54 | 49.2 | 22.2 | 52.3 | 26.8 |
| 55-59 | 42.9 | 17.8 | 45.9 | 23.4 |
| Gross years of working life during ages 10-59 | 24.1 | 9.0 | 24.6 | 11.6 |

Table 7.2: (India) Age Specific Worker-Population Ratios by Rural-Urban Residence and Sex, 1972-73 to 1987-88

| Age Group (years) | Year | Rural Areas | | | | Urban Areas | | | |
|-------------------|---------|-------------|-------|-------|-------|-------------|-------|-------|-------|
| | | Females | | Males | | Females | | Males | |
| | | PS | PS+SS | PS | PS+SS | PS | PS+SS | PS | PS+SS |
| 5-14 | 1972-73 | - | 10.8 | - | 13.9 | - | 3.0 | - | 5.4 |
| | 1977-78 | 8.7 | 11.6 | 12.8 | 14.4 | 3.5 | 4.4 | 5.4 | 6.1 |
| | 1983 | 8.8 | 12.5 | 11.3 | 12.2 | 2.9 | 3.8 | 4.7 | 6.0 |
| | 1987-88 | 6.1 | 9.7 | 7.2 | 10.1 | 2.4 | 3.3 | 3.9 | 4.4 |
| 15-29 | 1972-73 | - | 49.3 | - | 84.5 | - | 16.8 | - | 64.6 |
| | 1977-78 | 36.4 | 49.7 | 81.9 | 85.3 | 15.0 | 19.7 | 63.3 | 65.7 |
| | 1983 | 36.1 | 49.7 | 78.9 | 82.7 | 14.5 | 18.7 | 64.0 | 66.6 |
| | 1987-88 | 35.0 | 46.1 | 74.7 | 79.2 | 13.9 | 18.3 | 60.2 | 62.7 |
| 30-44 | 1972-73 | - | 60.9 | - | 98.6 | - | 27.6 | - | 97.4 |
| | 1977-78 | 47.1 | 61.2 | 98.4 | 98.9 | 24.3 | 30.3 | 97.6 | 98.0 |
| | 1983 | 45.7 | 61.4 | 98.1 | 98.5 | 23.4 | 29.2 | 97.2 | 97.5 |
| | 1987-88 | 46.3 | 59.3 | 97.8 | 98.3 | 23.1 | 29.5 | 97.4 | 97.7 |
| 45-59 | 1972-73 | - | 52.0 | - | 96.1 | - | 26.3 | - | 92.4 |
| | 1977-78 | 40.4 | 53.4 | 95.6 | 96.3 | 22.9 | 28.3 | 92.6 | 93.3 |
| | 1983 | 40.7 | 55.2 | 95.0 | 95.5 | 22.8 | 27.8 | 92.1 | 92.6 |
| | 1987-88 | 41.4 | 53.0 | 95.2 | 95.8 | 22.1 | 27.4 | 92.5 | 93.0 |
| 60 and above | 1972-73 | - | 21.8 | - | 69.8 | - | 12.4 | - | 53.2 |
| | 1977-78 | 15.7 | 22.0 | 64.4 | 66.7 | 10.3 | 12.9 | 49.7 | 51.2 |
| | 1983 | 14.5 | 22.6 | 64.1 | 66.8 | 11.6 | 13.8 | 48.5 | 50.2 |
| | 1987-88 | 16.0 | 21.8 | 64.6 | 66.8 | 9.3 | 12.3 | 46.1 | 48.0 |
| All Ages (0+) | 1972-73 | - | 31.8 | - | 54.5 | - | 13.4 | - | 50.1 |
| | 1977-78 | 24.8 | 33.1 | 53.7 | 55.2 | 12.3 | 15.6 | 49.7 | 50.8 |
| | 1983 | 24.8 | 34.0 | 52.8 | 54.7 | 12.0 | 15.1 | 50.0 | 51.2 |
| | 1987-88 | 24.5 | 32.3 | 51.7 | 53.9 | 11.8 | 15.2 | 49.6 | 50.6 |

PS - Principal Status

PS + SS Principal and Subsidiary Statuses Combined

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Table 7.3: Gross Years of Working Life in Age 10-59 for Selected States of India by Sex and Rural-Urban Residence, Based on the 1961 Census and the NSS Estimates of Worker-Population Ratios in 1987-88

| Area/Year | Rural Areas | | Urban Areas | |
|-------------------------|-------------|-------|-------------|-------|
| | Females | Males | Females | Males |
| India | | | | |
| 1961 | 23.6 | 44.3 | 9.0 | 38.9 |
| 1987-88 | 24.6 | 42.2 | 11.6 | 38.6 |
| Maharashtra | | | | |
| 1961 | 35.6 | 44.8 | 10.9 | 39.0 |
| 1987-88 | 34.0 | 41.9 | 12.3 | 37.2 |
| Bihar | | | | |
| 1961 | 22.3 | 43.9 | 8.8 | 38.9 |
| 1987-88 | 15.5 | 41.7 | 6.9 | 37.3 |
| Himachal Pradesh | | | | |
| 1961 | 41.8 | 45.1 | 10.5 | 40.2 |
| 1987-88 | 36.1 | 41.9 | 12.1 | 36.9 |
| Uttar Pradesh | | | | |
| 1961 | 13.4 | 43.1 | N.A. | N.A. |
| 1987-88 | 24.6 | 42.7 | 9.7 | 40.0 |
| West Bengal | | | | |
| 1961 | 8.8 | 42.0 | 4.5 | 37.4 |
| 1987-88 | 13.7 | 42.4 | 8.7 | 38.0 |

Table 7.4: Worker-Population Ratios by Sex, Age and Marital Status in Five States (Bihar, Himachal Pradesh, Maharashtra, Punjab and West Bengal Taken Together), 1961 Census

| Age Group | Females | | | | | Males* | | | | |
|-------------|---------|-----|-----|-----|-----|--------|-----|-----|-----|-----|
| | All | NM | M | W | D | All | NM | M | W | D |
| Rural Areas | | | | | | | | | | |
| All Ages | 280 | 62 | 449 | 371 | 642 | 548 | 525 | 937 | 826 | 899 |
| 10 and over | 554 | 229 | 449 | 371 | 643 | 796 | 515 | 937 | 826 | 899 |
| 0-9 | 14 | 10 | 13 | 149 | 3 | 24 | 25 | 131 | 462 | - |
| 10-14 | 228 | 191 | 339 | 465 | 445 | 287 | 270 | 507 | 606 | 376 |
| 15-19 | 365 | 342 | 413 | 525 | 643 | 699 | 653 | 810 | 938 | 864 |
| 20-24 | 442 | 417 | 439 | 541 | 689 | 902 | 847 | 933 | 939 | 943 |
| 25-29 | 474 | 588 | 468 | 563 | 685 | 963 | 921 | 970 | 960 | 956 |
| 30-34 | 494 | 529 | 485 | 582 | 693 | 971 | 917 | 975 | 957 | 948 |
| 35-39 | 515 | 576 | 503 | 587 | 704 | 974 | 913 | 977 | 958 | 940 |
| 40-44 | 502 | 513 | 490 | 541 | 670 | 970 | 890 | 975 | 952 | 926 |
| 45-49 | 499 | 485 | 489 | 517 | 643 | 969 | 894 | 974 | 951 | 921 |
| 50-54 | 435 | 426 | 438 | 430 | 560 | 956 | 854 | 964 | 928 | 905 |
| 55-59 | 387 | 505 | 399 | 376 | 514 | 940 | 845 | 951 | 909 | 898 |
| 60-64 | 279 | 314 | 313 | 265 | 405 | 881 | 761 | 903 | 826 | 803 |
| 65-69 | 225 | 361 | 267 | 210 | 333 | 831 | 714 | 861 | 767 | 778 |
| 70 and over | 115 | 217 | 181 | 104 | 206 | 619 | 516 | 691 | 519 | 556 |
| Urban Areas | | | | | | | | | | |
| All Ages | 93 | 25 | 135 | 230 | 464 | 534 | 240 | 888 | 709 | 812 |
| 10 and over | 131 | 64 | 135 | 230 | 464 | 700 | 427 | 888 | 709 | 812 |
| 0-9 | 1 | 1 | - | - | - | 4 | 4 | - | - | - |
| 10-14 | 31 | 25 | 119 | 233 | 323 | 81 | 77 | 325 | 500 | 248 |
| 15-19 | 84 | 59 | 108 | 310 | 363 | 416 | 384 | 640 | 627 | 568 |
| 20-24 | 128 | 192 | 111 | 341 | 419 | 746 | 687 | 836 | 843 | 690 |
| 25-29 | 145 | 316 | 127 | 399 | 487 | 899 | 840 | 927 | 876 | 888 |
| 30-34 | 171 | 330 | 147 | 457 | 525 | 927 | 862 | 939 | 874 | 871 |
| 35-39 | 201 | 438 | 166 | 442 | 554 | 945 | 870 | 952 | 903 | 890 |
| 40-44 | 219 | 385 | 171 | 387 | 531 | 941 | 850 | 948 | 897 | 871 |
| 45-49 | 212 | 408 | 163 | 317 | 514 | 925 | 799 | 934 | 877 | 824 |
| 50-54 | 200 | 298 | 148 | 256 | 443 | 900 | 768 | 911 | 847 | 814 |
| 55-59 | 162 | 271 | 127 | 190 | 334 | 845 | 742 | 856 | 796 | 811 |
| 60-64 | 128 | 219 | 101 | 138 | 313 | 656 | 570 | 668 | 617 | 618 |
| 65-69 | 89 | 144 | 76 | 93 | 204 | 544 | 509 | 552 | 528 | 488 |
| 70 and over | 58 | 92 | 64 | 56 | 161 | 414 | 395 | 444 | 360 | 435 |

Source: Visaria (1983), Level and Nature of Work Participation by Sex, Age and Marital Status in India, 1961, *Economic and Political Weekly*, Vol. XVIII, Annual Number 1983.

* Excluding Maharashtra

NM - Never Married, M - Currently Married; W - Widowed;

D - Divorced and Separated

Table 7.5: Gross Years of Working Life in Ages 10-59 by Rural-Urban Residence, Sex and Marital Status, 1961 Census Data for Males for Four States (Bihar, Himachal Pradesh, Punjab and West Bengal) and for Females for Five States (Four States Plus Maharashtra)

| Marital Status | Females | | Males | |
|------------------------|-------------|-------------|-------------|-------------|
| | Rural Areas | Urban Areas | Rural Areas | Urban Areas |
| All | 21.7 | 7.8 | 43.2 | 38.1 |
| Never Married | 22.9 | 13.6 | 40.2 | 34.4 |
| Married | 22.3 | 6.9 | 45.2 | 41.3 |
| Widowed | 25.6 | 16.7 | 45.5 | 40.2 |
| Divorced and Separated | 31.2 | 22.5 | 43.4 | 37.4 |

Table 7.6: (India) Worker-Population Ratios for Population Aged 15 and Over, by Marital Status and Rural-Urban Residence, NSS 1987-88 (All India)

| Marital Status | Rural | | Urban | |
|---------------------------------|---------|-------|---------|-------|
| | Females | Males | Females | Males |
| Never Married | 37.7 | 67.3 | 19.4 | 50.9 |
| Currently Married | 51.4 | 94.2 | 21.9 | 91.4 |
| Widowed, Divorced and Separated | 41.0 | 71.3 | 29.5 | 58.9 |
| All | 48.5 | 86.3 | 22.5 | 76.9 |

Source: *Sarvekshana*, Special Number, September 1990.

Table 7.7: (India) Worker-Population Ratios for Population Aged 15 and Over, by Educational Attainment, Rural-Urban Residence and Sex, NSS Data for 1983 and 1987-88

| Education Attainment | Rural Areas | | | | Urban Areas | | | |
|----------------------|-------------|---------|-------|---------|-------------|---------|-------|---------|
| | Females | | Males | | Females | | Males | |
| | 1983 | 1987-88 | 1983 | 1987-88 | 1983 | 1987-88 | 1983 | 1987-88 |
| Not literate | 54.3 | 52.6 | 91.8 | 91.8 | 29.6 | 29.2 | 86.8 | 86.1 |
| Literate and | | | | | | | | |
| Upto Primary | 41.8 | 39.1 | 90.1 | 89.0 | 18.1 | 17.5 | 85.2 | 83.9 |
| Middle | 29.3 | 28.6 | 75.3 | 73.9 | 11.1 | 11.3 | 71.0 | 68.0 |
| Secondary | 26.9 | 26.2 | 73.3 | 72.9 | 15.6 | 15.1 | 67.6 | 66.4 |
| Graduate and | | | | | | | | |
| Above | 29.5 | 30.7 | 83.9 | 82.7 | 29.7 | 31.5 | 82.5 | 81.1 |
| All | 50.9 | 48.5 | 87.7 | 86.3 | 22.5 | 22.0 | 78.4 | 76.8 |

Source: *Sarvekshana*, Special Number, September 1990. (pp. 82).

Table 7.8: (India) Worker-Population Ratios by Religion, Rural-Urban Residence and Sex. NSS Data for 1987-88

| Religion | Rural Areas | | Urban Areas | |
|----------------|-------------|-------|-------------|-------|
| | Females | Males | Females | Males |
| Hinduism | 33.7 | 54.2 | 15.9 | 52.0 |
| Islam | 19.6 | 50.5 | 11.4 | 49.1 |
| Christianity | 37.3 | 55.1 | 23.8 | 48.9 |
| Sikhism | 32.0 | 57.7 | 11.5 | 51.9 |
| Jainism | 25.6 | 51.4 | 6.4 | 53.4 |
| Buddhism | 47.5 | 53.3 | 17.6 | 42.3 |
| Zoroastrianism | 48.1 | 53.6 | 17.5 | 43.8 |
| Other | 33.1 | 51.6 | 9.0 | 50.8 |
| All | 32.3 | 53.9 | 15.2 | 50.6 |

Source: *Sarvekshana*, Special Number, September 1990.

Table 7.9: Rural India: Worker-Population Ratios by Area of Land Cultivated and Sex. NSS Data for 1983 and 1987-88

| Land cultivated (0.00 hect.) | Females | | Males | |
|------------------------------|---------|---------|-------|---------|
| | 1983 | 1987-88 | 1983 | 1987-88 |
| 0.00 | 33.4 | 30.8 | 53.6 | 51.7 |
| 0.01-0.20 | | 31.7 | | 53.3 |
| 0.21-0.40 | 35.1 | 34.7 | 55.0 | 54.2 |
| 0.41-1.00 | 32.7 | 33.8 | 55.5 | 55.0 |
| 1.01-2.00 | 34.9 | 32.5 | 55.8 | 55.3 |
| 2.01-3.00 | 33.7 | 31.9 | 54.9 | 55.0 |
| 3.01-4.00 | 35.3 | 32.2 | 56.2 | 55.7 |
| 4.01-6.00 | 38.2 | 32.4 | 56.8 | 54.7 |
| 6.01-8.00 | 42.8 | 33.7 | 56.1 | 55.6 |
| 8.01- and above | - | 32.5 | - | 54.7 |
| All | 34.0 | 32.3 | 54.7 | 53.9 |

Source: *Sarvekshana*, Special Number, September 1990 and Vol. XII, No. 3.

Note: The 1983 rates have been calculated assuming that the proportion of children in the age group 0-4 years was identical in different "land cultivated" classes.

X: 915.2.N9

N7

243013

Table 7.10: Female Worker-Population Ratios by Household Size, Number of Children in the Household and Selected Characteristics of the Head of the Household, Gujarat and Maharashtra. NSS Data for 1983 and 1987-88

| Characteristics | (Per cent) | | | | | | | |
|---|-------------|---------|-------------|---------|-------------|---------|-------------|---------|
| | Gujarat | | | | Maharashtra | | | |
| | Rural Areas | | Urban Areas | | Rural Areas | | Urban Areas | |
| | 1983 | 1987-88 | 1983 | 1987-88 | 1983 | 1987-88 | 1983 | 1987-88 |
| (a) Household size | | | | | | | | |
| 1-5 | 52 | 42 | 15 | 14 | 65 | 50 | 19 | 19 |
| 6-8 | 38 | 31 | 11 | 9 | 42 | 37 | 12 | 12 |
| 9+ | 37 | 30 | 10 | 9 | 37 | 38 | 10 | 10 |
| (b) Children 0-14 in Household | | | | | | | | |
| 0 | | 52 | | 17 | | 66 | | 25 |
| 1 | 50 | 42 | 17 | 13 | 62 | 51 | 21 | 18 |
| 2 | 40 | 38 | 13 | 12 | 46 | 44 | 14 | 14 |
| 3 | 33 | 30 | 10 | 10 | 32 | 36 | 12 | 12 |
| 4+ | 27 | 25 | 9 | 6 | 30 | 31 | 9 | 8 |
| (c) Children 0-4 | | | | | | | | |
| 0 | 42 | 42 | 16 | 14 | 52 | 49 | 17 | 18 |
| 1 | 35 | 31 | 8 | 9 | 41 | 39 | 14 | 13 |
| 2 | 30 | 28 | 10 | 8 | 33 | 35 | 10 | 9 |
| 3 | 25 | 28 | 9 | 10 | 32 | 34 | 7 | 8 |
| 4+ | 24 | 23 | 7 | 2 | 33 | 32 | 5 | 5 |
| (d) Children 5-9 | | | | | | | | |
| 0 | 43 | 42 | 14 | 13 | 54 | 51 | 18 | 19 |
| 1 | 36 | 33 | 12 | 11 | 41 | 37 | 13 | 13 |
| 2 | 29 | 27 | 10 | 8 | 32 | 33 | 10 | 10 |
| 3 | 25 | 25 | 4 | 5 | 28 | 32 | 6 | 9 |
| 4+ | 20 | 33 | 8 | 0 | 29 | 37 | 10 | 4 |
| (e) Children 10-14 | | | | | | | | |
| 0-1 | 39 | 37 | 13 | 12 | 46 | 44 | 15 | 16 |
| 2 | 31 | 31 | 13 | 9 | 37 | 36 | 12 | 11 |
| 3+ | 25 | 25 | 7 | 7 | 33 | 33 | 10 | 9 |
| (f) Married Males in Household | | | | | | | | |
| 0-1 | 36 | 35 | 13 | 13 | 43 | 42 | 15 | 16 |
| 2 | 38 | 36 | 12 | 9 | 45 | 44 | 13 | 14 |
| 3+ | 35 | 30 | 10 | 8 | 44 | 44 | 9 | 11 |
| (g) Sex of Household Head | | | | | | | | |
| Male | 36 | 34 | 11 | 10 | 43 | 41 | 13 | 13 |
| Female | 46 | 50 | 30 | 31 | 52 | 53 | 32 | 33 |
| (h) Marital Status of Household Head | | | | | | | | |
| NM + CM | 36 | 34 | 11 | 10 | 43 | 42 | 13 | 14 |
| WIDS | 42 | 41 | 25 | 26 | 50 | 49 | 30 | 27 |
| (i) Education of Household Head | | | | | | | | |
| Illiterate | 38 | 41 | 20 | 20 | 49 | 48 | 27 | 25 |
| Upto Primary | 36 | 32 | 11 | 11 | 41 | 41 | 15 | 14 |
| Middle or Above | 26 | 22 | 9 | 7 | 31 | 32 | 9 | 13 |

Table 7.11: India: Worker-Population Ratios (Based on Usual Principal Activities) by Migration Status, Sex and Rural-Urban Residence, NSS Data for 1983 and 1987-88

| Migration Status | Females | | Males | |
|---|-------------|-------------|-------------|-------------|
| | Rural Areas | Urban Areas | Rural Areas | Urban Areas |
| Life Time Migrants(1983) | | | | |
| Migrants | 38.1 | 16.6 | 70.8 | 69.0 |
| Non-Migrants | 17.7 | 9.4 | 51.4 | 42.9 |
| All | 24.08 | 12.0 | 52.8 | 50.0 |
| Migrants During a 10 Year Period (1987-88) | | | | |
| Migrants | 35.7 | 12.4 | 61.3 | 59.2 |
| Non-Migrants | 22.4 | 11.6 | 51.2 | 47.6 |
| All | 24.5 | 11.8 | 51.7 | 49.6 |
| Migrants During a 5 Year Period (1983) | | | | |
| Migrants | 38.1 | 16.6 | 58.7 | 55.5 |
| Non-Migrants | 24.1 | 11.9 | 52.6 | 49.3 |
| All | 24.8 | 12.0 | 52.8 | 50.0 |
| Migrants During a 5 Year Period (1987-88) | | | | |
| Migrants | 32.6 | 10.9 | 57.6 | 55.2 |
| Non-Migrants | 23.7 | 11.9 | 51.5 | 48.8 |
| All | 24.5 | 11.8 | 51.7 | 49.6 |

Source: *Sarvekshana*, Vol. XI, No. 4 (1988), Vol. XIII, No. 3 (1990), Special Number (1990) and Vol. XV, No. 4 (1992).

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Table 7.12: (Urban India) Worker-Population Ratios for Metropolitan Cities with a Population of One Million or More and Smaller Cities/Towns by Size Class, NSS Data for 1977-78, 1983 and 1987-88 and the 1991 Census Estimates

| Cities/Size class of Towns | Usual Status | | Current Weekly Status | | |
|----------------------------|-------------------|----------------|-----------------------|-------------|-------------------|
| | 43rd (1987-88) | 38th (1983) | 43rd (1987-88) | 38th (1983) | 32nd (1977-78) |
| | Females | | | | |
| Ahmedabad | 9.6 | 10.4 | 7.4 | 9.4 | 9.2 |
| Bangalore | 12.3 | 11.6 | 10.7 | 10.2 | 10.1 |
| Bombay | 12.9 | 9.6 | 11.2 | 9.0 | 10.3 |
| Calcutta | 14.6 | 17.5 | 13.3 | 15.0 | 8.2 |
| Delhi | 9.0 | 9.6 | 8.3 | 9.1 | 8.8 |
| Hyderabad | 10.9 | 13.0 | 9.9 | 12.1 | 10.8 |
| Kanpur | 6.2 | 5.9 | 5.2 | 4.5 | 5.0 |
| Madras | 15.2 | 12.9 | 14.2 | 11.5 | 10.3 |
| Nagpur | 11.8 | 12.8 | 10.0 | 10.2 | N.A. |
| Pune | 14.1 | 15.0 | 13.1 | 13.6 | N.A. |
| All Cities | 11.9 | 11.3 | 10.6 | 10.1 | N.A. |
| 200,000 to 999,999 | 12.8 | 12.6 | 10.3 | 10.3 | 11.2 |
| 50,000 - 199,999 | 15.1 | 14.9 | 12.0 | 11.7 | 12.7 |
| < 50,000 | 18.7 | 18.3 | 13.6 | 13.5 | 14.6 |
| Urban India | 15.2 | 15.1 | 11.9 | 11.8 | 12.5 |
| Rural India | 32.3 | 34.0 | 22.0 | 22.7 | 23.2 |
| | Males | | | | |
| Ahmedabad | 49.0 | 50.5 | 48.4 | 50.0 | 46.8 |
| Bangalore | 48.5 | 48.6 | 47.5 | 46.9 | 47.1 |
| Bombay | 52.7 | 55.6 | 51.9 | 55.1 | 53.2 |
| Calcutta | 57.8 | 57.8 | 56.4 | 56.7 | 55.8 |
| Delhi | 54.4 | 54.8 | 54.1 | 54.3 | 51.8 |
| Hyderabad | 50.4 | 51.1 | 49.6 | 48.6 | 46.0 |
| Kanpur | 50.2 | 58.4 | 49.4 | 56.9 | 51.0 |
| Madras | 53.6 | 50.2 | 52.6 | 48.6 | 48.7 |
| Nagpur | 43.4 | 49.5 | 42.1 | 47.5 | N.A. |
| Pune | 52.2 | 47.3 | 49.7 | 46.8 | N.A. |
| All Cities | 52.5 | 53.4 | 51.6 | 52.4 | N.A. |
| 200,000 to 999,999 | 51.0 | 50.9 | 50.0 | 49.5 | 48.2 |
| 50,000 - 199,999 | 49.9 | 50.5 | 48.5 | 48.7 | 48.3 |
| < 50,000 | 49.9 | 50.7 | 47.9 | 47.9 | 48.0 |
| Urban India | 50.6 | 51.2 | 49.2 | 49.2 | 49.0 |
| Rural India | 53.9 | 54.7 | 50.4 | 51.1 | 51.9 |
| Size Class | Main + Marginal | | Main Only | | |
| | | | Females | Males | |
| | | | Females | Males | |
| 1991 Census Estimates | | | | | |
| One Million or More | 8.4 | 51.6 | 8.0 | 51.2 | |
| 200,000 - 999,999 | 7.8 | 48.3 | 7.2 | 48.0 | |
| 50,000 - 199,999 | 8.4 | 47.8 | 7.5 | 47.5 | |
| < 50,000 | 11.2 | 48.3 | 9.2 | 47.9 | |
| All | 8.3 | 49.1 | 8.1 | 48.6 | |

Source:

1. *Sarvekshana*, Vol. XVII, No. 2.

2. Census of India 1991, Paper 2 of 1992, Final Population Totals: Brief Analysis of Primary Census Abstract, New Delhi, 1993.

Table 7.13: (India) Worker-Population Ratios for Persons Aged 5 Years and Above by Sex, Rural-Urban Residence and Sub-Round Current Status Estimates, NSS Data from 1972-73 to 1987-88

| Sub-Round | Current Weekly Status | | | | Current Daily Status | | | |
|--------------------|-----------------------|---------|------|---------|----------------------|---------|------|---------|
| | 1972-73 | 1977-78 | 1983 | 1987-88 | 1972-73 | 1977-78 | 1983 | 1987-88 |
| Rural Females | | | | | | | | |
| July-Sept. | 34.1 | 28.2 | 28.4 | 26.4 | 28.8 | 23.6 | 24.8 | 24.9 |
| Oct-Dec | 35.2 | 27.3 | 27.3 | 26.8 | 29.7 | 23.1 | 24.1 | 25.3 |
| Jan-March | 31.8 | 26.5 | 25.8 | 25.0 | 26.4 | 22.3 | 22.3 | 23.6 |
| April-June | 29.2 | 25.3 | 23.7 | 23.2 | 24.1 | 21.1 | 20.5 | 21.7 |
| Combined | 32.6 | 26.9 | 26.3 | 25.3 | 27.2 | 22.6 | 22.9 | 23.8 |
| Range as % of Mean | 18 | 11 | 18 | 14 | 21 | 11 | 19 | 15 |
| Rural Males | | | | | | | | |
| July-Sept. | 62.6 | 60.5 | 59.6 | 57.8 | 59.6 | 56.9 | 56.1 | 57.6 |
| Oct-Dec | 63.1 | 60.4 | 60.0 | 58.7 | 60.1 | 57.0 | 57.0 | 58.5 |
| Jan-March | 61.7 | 60.4 | 59.2 | 58.2 | 58.4 | 56.6 | 55.7 | 57.8 |
| April-June | 61.1 | 59.5 | 58.5 | 58.2 | 57.6 | 55.6 | 54.8 | 57.8 |
| Combined | 62.1 | 60.2 | 59.3 | 58.3 | 58.9 | 56.6 | 55.9 | 57.9 |
| Range as % of Mean | 3 | 1 | 3 | 2 | 4 | 3 | 4 | 2 |
| Urban Females | | | | | | | | |
| July-Sept. | 14.3 | 13.9 | 12.8 | 14.3 | 12.6 | 12.1 | 11.7 | 12.9 |
| Oct-Dec | 14.7 | 13.5 | 13.8 | 13.6 | 13.0 | 11.8 | 12.5 | 12.5 |
| Jan-March | 14.3 | 14.8 | 13.8 | 12.8 | 12.4 | 13.1 | 12.8 | 12.0 |
| April-June | 13.7 | 14.7 | 13.1 | 13.4 | 12.0 | 13.0 | 11.6 | 12.3 |
| Combined | 14.2 | 14.2 | 13.5 | 13.5 | 12.5 | 12.5 | 12.2 | 12.5 |
| Range as % of Mean | 7 | 9 | 7 | 11 | 8 | 10 | 10 | 7 |
| Urban Males | | | | | | | | |
| July-Sept. | 55.2 | 55.0 | 55.4 | 55.3 | 54.2 | 52.8 | 53.2 | 53.2 |
| Oct-Dec | 55.8 | 54.9 | 56.6 | 55.4 | 54.1 | 52.9 | 54.4 | 53.8 |
| Jan-March | 56.0 | 56.0 | 56.1 | 55.4 | 54.4 | 54.0 | 53.7 | 53.9 |
| April-June | 56.7 | 56.1 | 55.8 | 56.4 | 55.0 | 54.3 | 53.5 | 54.8 |
| Combined | 55.9 | 55.5 | 55.9 | 55.7 | 54.4 | 53.5 | 53.7 | 53.9 |
| Range as % of Mean | 3 | 2 | 2 | 2 | 2 | 3 | 2 | 3 |

Source:

1. NSSO; Report No. 255/10, *Some Summary Information on Employment and Unemployment*, NSS 27th Round (October 1972-September 1973); Mimeographed, December 1977.
2. NSSO; *Sarvekshana*, Vol. XI, No. 4: A note on the Third Quinquennial Survey on Employment and Unemployment.
3. NSSO, *Sarvekshana*, Special Number, September 1990. Results of the Fourth Quinquennial Survey on Employment and Unemployment.

8 A Multivariate Analysis of the Factors Contributing to Female Participation in Economic Activities in Western India

Our discussion so far has focused on differences in female WPRs according to two or three variables at a time. The available data presented there could not take account of more than a limited number of characteristics of the industrial or of the situation of their households (including the characteristics of the head of the household) and the region. The following discussion presents the results of a multivariate analysis of the determinants of female participation in economic activities in Gujarat and Maharashtra States of India. The data were collected during the 1983 and the 1987-88 surveys (38th and 43rd Rounds, respectively). The data were made available to me by the NSS Organisation in 1987-88 for a study of the Correlates of Poverty in Western India.³¹

As a prelude to the results of our multivariate analysis, Table 8.1 presents the WPRs for females aged 15 and over for Gujarat and Maharashtra. The rural WPRs for females ranged between 54 and 59 per cent in Gujarat and between 66 and 71 per cent in Maharashtra. The figures for urban females were 17 and 19 per cent in Gujarat and 22 and 23 per cent in Maharashtra.

The results of logistic regression analyses³² for rural and urban women aged 15 years and above are summarised in Table 8.2. The detailed results in terms of odds ratios³³ are presented in Appendix Table A.5 separately for workers in terms of principal status and for all workers (in terms of both principal and subsidiary statuses together). The dependent variable is dichotomous and takes the value of one if a woman is a worker and zero otherwise. A total of 19 variables have been considered. They are:

- (a) Three variables relating to the characteristics of the individual woman (age, marital status and education);
- (b) Ten variables relating to the characteristics of the household (size, child-woman ratios, child dependency ratio, number of adult females in the household, presence of a child worker aged 10-14 in the household, number of adult male workers, major source of income, quintile of monthly per capita expenditure, caste/tribe status, and per capita land possessed)³⁴;
- (c) Four variables relating to the characteristics of the head of the household (sex, age, education and activity status); and
- (d) Two variables relating to the physical environment (region and season, reflected in the quarter or the sub-round of the survey).

The model leads to a correct prediction of the behaviour of between 73 and 81 per cent of sample women in rural areas and between 81 and 86 per cent of the sample women in urban areas. The relative importance or the rank of different variables in predicting a woman's participation in work, however, differs between rural and urban areas.

³¹ My grateful thanks are due to the National Sample Survey Organisation and its then-Chairman (Professor B.S. Minhas) and the Chief Executive Officer (Dr. S.N. Ray) for providing access to the data. The study of poverty was financed by the Ministry of Finance, Government of India, on the advice of a Committee chaired by late Professor D.T. Lakdawala.

³² The logistic regression model provides maximum likelihood estimates and is not subject to the problem of multicollinearity between variables.

³³ The odds of an event occurring are defined as the ratio of the probability that it will occur to the probability that it will not.

³⁴ The land variable has been considered only for rural areas.

Several of the variables listed here are "categorical" rather than continuous or quantifiable. But even for the latter variables, the sample households are grouped into a small number of categories with due attention to the range of the variable and the distribution of households over different values.

(a) Determinants of the Participation of Rural Females in Economic Activity

Of the 19 variables considered, age of the female, agro-climatic region, activity status of the head of household, per capita land possessed, major source of income, presence of a child worker in the household, education level of the female, season and sex of the head of the household turn out to be important predictors of a women's participation in work.

Rather surprisingly, the influence of some of the indicators of demographic pressure such as household size, child-woman ratio and child-dependency ratio on women's participation in work turns out to be smaller. Child-dependency ratio turns out to be a non-significant variable in two of the four data sets, and in the two data sets, where it is significant, its rank as an explainer is thirteenth or fifteenth.

As expected, the probability of a woman becoming a worker tended to rise with age but declined at higher ages (40 years and over). The probability declined with the education level of the woman and was smaller if the woman (particularly in Maharashtra) was not married. Marital status was not a significant factor in rural Gujarat but it was significant in rural Maharashtra, albeit with the 11th and 16th ranks in 1983 and 1987-88.

In an earlier study of Gujarat and Maharashtra, based on the same two surveys for 1983 and 1987-88, a significant association was observed between participation of children in economic activity and that by women in the household. (Visaria *et al.*, 1993).³⁵ A majority of households with a child worker also reported work participation by adult females. In fact, according to the results summarised in Table 8.2 and the Appendix Table A.5, the decision of a woman to participate in work seems to be influenced by the number of adult members in the household. Perhaps because of a negative income effect, the probability of a woman's participation in economic activities declined with a rise in the number of adult male workers in the household and also if there was an additional woman in the household. As noted earlier in Section 7(j), it might also reflect the life cycle (or age) of individual women. In Maharashtra, the burden of child rearing and care (measured in terms of child-woman ratios and child-dependency ratios) tended to retard work participation of women. The relative importance of the quintile of monthly per capita expenditure of the household, a proxy for income, as a predictor of female participation in economic activity was higher than that of the number of adult females in the household in three out of the four data sets. (As expected, the effect was negative.)

Caste or tribe status turned out to be a significant predictor with a 10th rank in Gujarat in 1987-88 and with the seventeenth rank in Maharashtra in 1983. It was not a significant predictor in the other two data sets. Quite likely, the other variables capture the effect of the caste/tribe variable, insofar as the scheduled tribe population is concentrated in specific regions of the two States under study here. The per capita land

³⁵ Visaria, Pravin, Anil Gunber and Chitram Gopinath. Child Labour, Family Life and Fertility in India. Working Paper No. 55, Gujarat Institute of Development Research, December 1993.

possessed and the major source of income of the household also cover some of the caste and tribe attributes of the population.

The female WPRs are markedly higher in households where the head is either self-employed or a casual labourer or a regular employee in agriculture. It is possible that regular employment in agriculture is often offered to both the spouses rather than to only one spouse.

Female heads of households had a markedly higher probability of participation in economic activity than their other sisters. They also had a higher chance of being a worker in terms of principal status. Similarly, the households with casual labour as their major source of income had higher female WPRs in terms of principal status alone.

The presence of a child worker in the household was associated with a lower chance of a woman being classified as a worker in terms of principal status but with a higher overall chance of the woman in the household being classified as a worker (in terms of either principal or subsidiary status). On the whole, however, the relationship between our independent variables and the odds of a woman being classified as a worker in terms of her principal status was similar to that for her classification as a worker in terms of either principal or subsidiary status.

(b) Determinants of the Participation of Urban Women in Economic Activity

Rather surprisingly, the 1987-88 survey data for urban Gujarat show seven of the 18 variables considered by us to be not statistically significant. The corresponding number of non-significant variables was three for the 1983 data for urban areas of both Gujarat and Maharashtra and two for the 1987-88 data for urban Maharashtra. The child-dependency ratio was not a significant variable in any of the four data sets studied. Likewise, the season or the sub-round was not a significant variable except in urban Gujarat in 1983 (when it was ninth among the 11 significant variables).

The important predictors of the participation of urban women in economic activity were, besides the age of the woman, the sex, activity status, age and education of the head of the household: region and the MPCE quintile, as well as, the caste/tribe status, and the number of adult male workers in the household, child-woman ratio and the household size. Education of the female herself as also the child-woman ratio, the number of adult male workers and the MPCE quintile of the household had an inverse effect on urban female work participation. While the child-woman ratio reflected the responsibilities of child care, the other household-level variables, as well as, the characteristics of the head of the household probably indicated the income level of the household.

The odds ratios relating to the participation in economic activities by urban women aged 30-39 and 40-49 are markedly higher than those for rural women because the WPRs for the base category of age group 15-19 is much higher in the countryside than in the towns and cities. The latter also report much higher school or college attendance ratios for the youth than rural areas.

The effect of education of the woman, reported in our analysis, has been affected by the decision to group together all women with a middle school and higher education, because of the constraints of sample size. Otherwise, higher educational attainment is correlated with high levels of socio-economic status or income. Quite likely, there is a negative income effect on women's work participation.

(c) Implications for the Future Trends in Participation Rates

It would be a mistake to infer from our multivariate analysis that rising levels of urban incomes in the years ahead will depress the female WPRs. Quite probably, the inflationary pressures and the rising aspirations about the level of living of the family, as well as, the children are likely to raise the level of participation in economic activity by women, particularly the better educated, in urban areas: their WPRs are at present depressed to some extent by the high unemployment rates, discussed below. Also, the expected growth of self-employment and the modern information technology in the urban economy might well enhance the chances of women being able to find flexible work that does not require compromises with the responsibilities of child care. Yet, the marked rural-urban differences in female WPRs imply that the effect of urbanisation on the overall level of women's participation in economic activities (including labour force participation rates) in the country as a whole may be negative.

In a recent projection of the labour force to 2031 A.D., I have assumed that the female labour force participation rates in ages 20 and over will remain more or less unchanged.³⁶ Given the prospective increase in urbanisation, the assumption implies an unspecified or unquantified rise in the participation rates of rural and/or urban females. It is not really possible to estimate the future trends in participation rates by five year age groups because only the 1987-88 survey has provided these estimates. When the corresponding data from the 1993-94 survey become available, there will be a better basis for some judgement about the prospective trends.

Table 8.1: Worker-Population Ratios for Females Aged 15 and Over, in Gujarat and Maharashtra by Rural-Urban Residence, According to Alternative Criteria, NSS Data for 1983 and 1987-88

| Basis of Classification | Rural Gujarat | | Urban Gujarat | | Rural Maharashtra | | Urban Maharashtra | |
|-------------------------|---------------|---------|---------------|---------|-------------------|---------|-------------------|---------|
| | 1983 | 1987-88 | 1983 | 1987-88 | 1983 | 1987-88 | 1983 | 1987-88 |
| Principal Status | 46.9 | 41.2 | 15.4 | 13.3 | 65.0 | 59.4 | 19.8 | 18.9 |
| Subsidiary Status | 11.9 | 13.0 | 3.4 | 3.6 | 6.4 | 6.9 | 2.3 | 3.6 |
| All Workers | 58.8 | 54.2 | 18.8 | 16.9 | 71.4 | 66.3 | 22.2 | 22.5 |

³⁶ Visaria, Leela and Pravin Visaria, "Prospective Population Growth and Policy Options for India, 1991-2101", GIDR Working Paper No. 75, March 1996.

Table 8.2: A Summary of the Results of Logistic Regressions of Factors Contributing to a Woman (Aged 15 and Above) Being Classified as a Worker in Western India, 1983 and 1987-88

| Indicators | Rural Gujarat | | Rural Maharashtra | | Urban Gujarat | | Urban Maharashtra | | Type of Relationship/Remarks |
|--|---------------|---------|-------------------|---------|---------------|---------|-------------------|---------|--|
| | 1983 | 1987-88 | 1983 | 1987-88 | 1983 | 1987-88 | 1983 | 1987-88 | |
| I Characteristics of Females (Aged 15+) | | | | | | | | | |
| Age (7) | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | Non-linear; inverted u-shaped |
| Marital Status (2) | NS | NS | 11 | 16 | NS | NS | 14 | 12 | |
| Education (3) | 6 | 9 | 2 | 3 | 11 | NS | 11 | 10 | Inverse |
| II Characteristics of the Household | | | | | | | | | |
| Household Size (3) | 14 | 17 | NS | NS | 14 | NS | 15 | 11 | Somewhat lower in middle size households |
| Child Woman Ratio (6) | NS | 15 | 14 | 11 | 10 | 4 | 13 | 14 | Inverse |
| Child Dependency Ratio (5) | NS | 13 | NS | 15 | NS | NS | NS | NS | |
| Number of Adult Females (4) | 11 | 16 | 16 | 10 | NS | NS | 12 | 15 | Inverse in rural areas; positive in urban areas |
| Child Worker in the Household (2) | 7 | 5 | 10 | 6 | 4 | NS | 8 | 4 | Very high in households with a child worker |
| Number of Adult Male Workers (4) | 8 | NS | 12 | 13 | 6 | 10 | 10 | 16 | Inverse |
| Major Source of Income (4/2) | 5 | 7 | 7 | 8 | 13 | 6 | NS | 5 | Higher in self-employed households in agriculture and casual labour households |
| Quintile of Monthly per Capita Expenditure (5) | 12 | 14 | 13 | 7 | 7 | 7 | 4 | 7 | Higher in Lower quintiles |
| Caste/Tribe Status (3) | NS | 10 | 17 | NS | NS | 5 | 7 | 9 | Higher in ST/SC households |
| Per Capita Land Possessed (8) | 4 | 4 | 5 | 5 | - | - | - | - | Lower in landless or nearly landless households |

Table 8.2 (contd.)

| Indicators | Rural Gujarat | | Rural Maharashtra | | Urban Gujarat | | Urban Maharashtra | | Type of Relationship/Remarks |
|---|---------------|---------|-------------------|---------|---------------|---------|-------------------|---------|---|
| | 1983 | 1987-88 | 1983 | 1987-88 | 1983 | 1987-88 | 1983 | 1987-88 | |
| III Characteristics of the Head of the Household | | | | | | | | | |
| Sex (2) | 10 | 6 | 9 | 12 | 3 | 2 | 3 | 3 | Very high among households with female heads |
| Age (4) | 13 | 12 | 6 | 9 | 8 | 9 | 9 | 8 | Lower among households with young heads |
| Education (3) | NS | 11 | 15 | NS | 12 | 11 | 6 | 13 | Inverse |
| Activity Status (10) | 3 | 3 | 3 | 2 | 1 | 3 | 1 | 2 | Very high among households with heads engaged as self-employed and casual labourers in agriculture. |
| IV Physical Environment | | | | | | | | | |
| Region (5/6) | 2 | 2 | 4 | 4 | 5 | 8 | 5 | 6 | Relatively higher in tribal regions |
| Season (4) | 9 | 8 | 8 | 14 | 9 | NS | NS | NS | Relatively higher during Oct-Dec. |
| V Percentage of Correctly Predicted Cases | | | | | | | | | |
| | 72.7 | 72.6 | 81.1 | 76.3 | 84.1 | 85.6 | 81.5 | 81.4 | |

Note:

1. NS - Not significant

2. - Not considered

3. Figures in parentheses show the number of categories used in the analysis.

4. Numbers in the body of the table show the order of importance of different variables.

9 Nature of Activities Pursued by Workers

Having examined the level of work participation by females, we can now turn to a review of the differences in the nature of work pursued by women workers. We shall examine this issue in terms of the industry, occupation and status of workers. For employees, we shall also examine the gender related differences in wages and salaries and the nature of operations performed by workers.

(a) Industrial Distribution of Workers

The broad industrial distribution of workers is presented in Table 9.1 for the period 1961 to 1992. There has been a steady and almost uniform fall in the proportion of workers engaged in the primary sector or agriculture, from about 76 per cent in 1961 to 62 per cent in 1989-90. (The fall was about 15 percentage points among male workers and 11 percentage points among female workers). The 47th Round survey showed a rise in the proportion to 64 per cent but it covered only the busy period in agricultural activities, July-December 1991. The relatively higher participation in that sector during the period is reflected in the results. Also, the increase was caused due to the higher participation in agricultural activities by both men and women of rural India. For urban India, the proportion of agricultural workers remained almost at the same level of about 12 per cent during 1990 and 1991.

The fall in the proportion of workers in the primary sector since the early 1970s has been through the gain of the tertiary sector. However, any analysis based on the annual Rounds including the 47th Round is only tentative because some of the surveys covered only a half year and all of them had smaller samples.

Table 9.2 summarises the results on industrial distribution at one digit level for the four quinquennial years 1972-73, 1977-78, 1983 and 1987-88. The 1980s have shown a marked increase in employment in construction with a particular spurt in 1987-88. The proportion of construction workers increased almost three fold in the case of females. The proportion of workers in manufacturing sector has remained almost steady between 1977-78 and 1987-88 among both males and females. The next two important sectors were 'services' and 'trade'; their share has risen from 8 to 9 per cent and from 5 to 7 per cent, respectively, between 1972-73 and 1987-88. However, the increase was mainly because of the increase of the proportion of male workers in the two sectors. The proportion for females remained almost constant.

(b) Sectoral Distribution of Main and Principal Workers of Censuses and NSS

The available 1991 Census data relating to the activities of "main" workers can be compared with only the industrial distribution of "principal" workers estimated by the NSS. The Census has distinguished nine categories of workers, cultivators, agricultural labourers, workers in livestock, forestry, fishing, hunting, plantation, orchards, and allied activities, etc., in manufacturing in and outside households, in construction, in trade and commerce, in transport, storage and communications, and other workers. The NSS data do not identify a separate category of household industry or the self-employed and employee workers engaged in crop production. The total of the first three Census categories can, however, be compared with the share of workers in the agricultural sector estimated by the NSS. Table 9.3 provides the relevant details.

Interestingly, the NSS estimates of the percentages of workers engaged in the agricultural sector are lower than those of the Census proportions of agricultural workers including cultivators and agricultural labourers. More importantly, surveys of 1977-78, 1983 and 1987-88 have indicated the beginning of a marked decline in the share of workers engaged in agricultural activities among those classified as working in terms of their principal activity. The Censuses of 1981 and 1991 suggest that the corresponding decline in the share of agricultural workers among "main" workers was only 1.9 percentage points among rural males and less than one percentage point among urban females. However, contrary to the trend shown by the NSS results for rural females and urban males, the share of agricultural workers showed a slight increase between 1981 and 1991 Censuses.

The marked difference in the magnitude of change reported by the two sources of data is seen for rural workers, who form a majority of the total work force. It is my hunch that a similar difference is likely to arise when one is able to examine the data relating to the total work force including both main and marginal workers, because the main workers account for a majority of all workers. However, this hypothesis can be evaluated only when the data relating to the industrial distribution of marginal workers enumerated by the 1991 Census are published. In my judgement, the NSS surveys are unlikely to exaggerate the diversification of the economic activities of workers to the extent that has to be postulated to reconcile the results of the Censuses and the national surveys. Quite likely, therefore, we will need to depend on a judicious study of the NSS data for assessing the level and pattern of changes in the structure of employment in the country.

The Census data show a decline between 1981 and 1991 in the share of the secondary sector employment in both rural and urban areas in most States except in the case of (a) rural and urban male workers in Goa; (b) the urban male workers in Lakshdweep, and female workers in Kerala; (c) rural male workers in Gujarat, Sikkim, West Bengal, Chandigarh, Dadra and Nagar Haveli, Daman and Diu and Delhi; and (d) rural and urban female workers in West Bengal, urban female workers in Dadra and Nagar Haveli and rural female workers in Daman and Diu, Kerala and Tamil Nadu. In most cases, the share of the services sector in total employment has increased while the share of the secondary sector has shrunk.

(c) Occupational Distribution

The available recent data relating to the occupational pattern of the usual principal and subsidiary status workers are limited to 1983 and 1987-88 and are summarised in Table 9.4. They can be compared, with due caution, with similar data for 1960-61 and 1961-62 collected during the 16th and 17th Rounds of the NSS with a reference period of only the week preceding the date of survey.

The available published tables of the 16th and the 17th Round surveys (1960-61 and 1961-62, respectively) for the rural work force are not adequate to ensure strict comparability between the occupational data for 1961-62 and the more recent period. The tables relating to the urban workers are at the two-digit level and can be regrouped for comparisons with the situation during the 1980s. The available figures for 1960-61 for rural India and for 1961-62 for urban India are included in Table 9.4.

The occupational data for the rural male work force show a decline of only 5 percentage points in the share of farmers, fishermen, hunters and related workers; the trend is in the expected direction and consistent with the industrial distribution. The occupational distribution of female workers shows a virtual stability in the share of agricultural workers between 1960-61 and the 1980s. The share of agricultural labourers, however, appears to have risen among both male and female workers. One does not observe any clear signs of change in the shares of white collar workers, except that the share of sales workers has probably moved upto some extent. Given the uncertainties with respect to the comparability of the distributions, these findings are to be noted as highly tentative.

The urban occupational structure is reviewed by comparing the 1961-62 data with the figures for the 1980s. A clear trend towards a rise in the share of white collar workers, particularly the professional, technical and related workers, who include the teachers, is evident among both male and female workers. The shares of clerical and related, as well as, the administrative, executive and managerial workers have also risen among the female workers; but the corresponding rise among male workers is a little ambiguous, because it seems to have accelerated rather suddenly between 1983 and 1987-88. The shares of farmers, service workers, as well as, of various categories of production process workers in the female work force show a decline; but the data relating to the male workforce show a clear decline only in the share of farmers.

During the 1980s, among rural female workers, agricultural labourers constituted about 32-33 per cent, while the corresponding proportion among rural male workers was only 26 per cent. In urban India, about 15 per cent of the female workers were service workers including housekeepers, matrons, stewards, cooks, maids, sweepers, cleaners, launderers, dry cleaners, hair dressers etc. This category constituted only about 9 per cent of urban male workers. Almost 40 and 30 per cent, respectively of both male and female workers in urban India were production process related workers and transport equipment operators.

One finds little evidence of any change in the occupational distribution of rural female workers during the eighties. But in the case of urban females, there has been a slight increase in the proportion of teachers, administrative, executive and managerial workers and other white collar workers during the late eighties compared to the early eighties.

Future research on the activities of women workers might benefit from a greater attention to the nature of occupations performed by them. It could effectively focus attention on the quality of employment in terms of status or the class of worker, the level of wages and salaries received by employees, and the working conditions, with respect to which women workers are often said to be at a disadvantage. The NSS data also include some information on the status distribution, wages and salaries, and on the nature of operations performed by rural workers. These data are examined next.

(d) Status Distribution of Workers

The status distribution (shown in Table 9.5) of all workers - males and females taken together - shows a gradual increase in the proportion of casual labourers, from 23 per cent in 1972-73 to almost 30 per cent in 1987-88. This increase was mainly at the cost of the self-employed. The proportion of regular employees was stable during 1972-1988

around 14-15 per cent. It was about 18-20 per cent for males but only 5-6 per cent among female workers. There was a decrease in the proportion of regular employees among urban male workers from 51 per cent in early seventies to 44 per cent in eighties. But for rural male workers and both rural and urban female workers, the share remained almost stable.

The observed decrease in the proportion of "self employed" at the overall level was because of the reduction in the self-employment opportunities in rural areas for both males and females. Males showed a sharper decrease than females. In fact, the rise in the share of casual workers during 1972-1987 was much more among male workers in both rural and urban areas than among female workers, although the proportion of casual labourers was more among female workers than among the male workers.

The fall in the proportion of "self employed" over the last two decades is quite probably due to the decline in the size of land holdings and the rise in the share of small and marginal holdings.³⁷ The proportion of persons who work in the household based agricultural activities has fallen as a result.

Much of the increase in the share of casual workers in the workforce has occurred between 1972-73 and 1977-78. It is associated with a shift in the "major activity" of workers during the reference period of the year preceding the survey. Quite likely, cultivators with small and marginal farms work for a major part of the year as agricultural labourers and get counted as casual labourers in terms of the "status" of their major activity. The growth of small and marginal land holdings has raised the proportion of those who now report casual labour as their status in major activity. The change has been associated also with a rise in the availability of non-farm work opportunities.

(e) Wages and Salaries of Employees

An important question relating to gender equity is whether there is equal pay for equal work in terms of type of work or profession. To examine this issue, the NSS data on average wage earnings per day for the work done by an adult labourer (15-59) during 1977-78, 1983 and 1987-88 are shown in Table 9.6. The female labourers were indeed paid less than the male labourers and the difference appears to have widened during late eighties relative to 1977-78. The average wage earnings for both male and female labourers have increased in real terms, i.e., faster than prices (measured through the consumer price index for agricultural labourers). But the increase in real wages was more for male labourers than for female labourers.

Table 9.7 shows the average wages received by female and male labourers for different types of operations relating to cultivation and other agricultural and non-agricultural activities during 1977-1988. It is seen that for all manual operations, men are paid higher wages than women, with the difference ranging between 23 and 73 per cent during 1987-88. This widening of the gender gap is associated with a marked

³⁷ The percentage of rural households with less than 0.005 acres or 0.002 hectares of land has risen little from 9.6 per cent in 1971-72 to 11.3 per cent during 1982 and 11.2 per cent during 1992. See: National Sample Survey Organisation, 1995. Report no. 399. Some Aspects of Household Ownership Holdings, 48th Round, 1992. New Delhi. The progressive subdivision of familial land holdings among all the sons on the death of the father has meant that in the country as a whole, by 1992, almost 72 per cent of the rural households owned less than 2.5 acres (or less than 1.0 hectare) of land. The percentage of landless households has not really risen between 1982 and 1992, but the share of small and marginal holdings has increased.

change in the nature of operations performed by female workers during 1987-88, relative to 1983. This issue is examined below.

The NSS data also include information on average salary paid to "regular employees". The data on average daily salary received by men and women in different occupations during 1987-88 are shown in Table 9.8. The physicians and surgeons, and the administrative and clerical workers in urban areas and nurses in both rural and urban areas reported a negligible gender differential in earnings; most of these occupations are held in the public or the organised private sector, with more or less fixed salary scales. In other occupations, female workers suffer a clear disadvantage in earnings. Overall, a male regular employee received a 40 and 20 per cent higher salary than a female employee in rural and urban India, respectively. The extent to which these differences reflect the effect of experience (and age) or education remains to be studied with the help of disaggregated multivariate analysis.

Jeemol Unni's³⁸ analysis of the data relating to earnings during 1987-88 of urban wage-earners in Tamil Nadu and Madhya Pradesh has indicated that wage earnings increase with experience for both sexes, but taper off at an earlier age for women workers. The gender difference in daily wage earnings generally persisted among workers with different levels of education within each of the age groups of 15-24, 25-44 and 45-64. More research on this subject with different data sets would be useful.

(f) Nature of Operations Performed by Rural Workers

In the three NSS quinquennial surveys of 1977-78, 1983, and 1987-88, information was collected for each working day of the reference week on the type of operations undertaken by the workers identified according to their "weekly status". This information has been used to obtain the distribution of working days by operation, separately for days engaged in "self-employment", "regular employment", "casual labour", and all the three categories together. Table 9.9 shows the comparative results for the three survey years of 1977-78, 1983 and 1987-88. The operations were broadly classifiable as (i) manual labour in (a) cultivation, (b) other agricultural activities and (c) non-agricultural activities with detailed categories under (a) and (b) and (ii) non-manual work in (a) cultivation, (b) other agricultural activities and (c) non-agricultural activities.

The results of the three surveys indicate that about 79-81 per cent of the working days of rural women workers were devoted to manual work relating to agricultural operations, whereas, the corresponding proportion for male workers was 72-74 per cent. During 1983, rural females spent 64 per cent of their working days in cultivation activities. The severe drought of 1987-88 seems to have lowered this percentage to almost 35. However, a compensating higher proportion of workdays was spent on manual work in "other agricultural activities" to make up for the shortfall in the work opportunities in cultivation activities; the same pattern is observed for rural male workers also. During 1987-88, the proportion of days engaged in manual work in non-agricultural activities had also gone up by about 3 percentage points for rural women workers and 9 percentage points for rural male workers. However, this increase in the

³⁸ Unni, Jeemol, "Returns to Education by Gender Among Employees in Urban India", Working Paper No. 63, Gujarat Institute of Development Research, March 1995.

share of manual non-agricultural activities was more among female casual labourers than among their self-employed sisters. But the pattern was the opposite for rural male workers.

The changes in the nature of operations undertaken in 1987-88 were quite likely a result of the severe drought. The manual non-agricultural activities were quite probably public works or scarcity relief works, which helped to maintain the purchasing power of rural households in a most difficult situation. Therefore, the widening of the gender differential in earnings during 1987-88 might be only a transient phenomenon. The 50th Round survey conducted during 1993-94 will help to test this conjecture.

Overall, however, it is most likely that the relatively restricted mobility of female workers might force them to accept lower wages and undertake operations or activities that are less remunerative while the male workers in the household temporarily migrate or commute to the neighbouring larger villages or towns to avail of other work opportunities. With the continuing sub-division of land holdings, the number of different activities taken up by both female and male workers is likely to go up. A careful study of these processes, i.e., of the diversification of the economic activities of households in various permutations and combinations, is likely to prove a most rewarding area of empirical research in India. It could be a valuable complement to the studies of inter-generational or temporal changes in the structure of employment in terms of industry, occupation and status.

Table 9.1: (India) Broad Sectoral Distribution of Workers (in Terms of Usual Status) by Sex and Rural-Urban Residence, 1961 to 1992

| Sector/ Year | Persons | | | Males | | | Females | | |
|-----------------|--------------|----------------|---------------|--------------|----------------|---------------|--------------|----------------|---------------|
| | Pri- mary | Seco- ndary | Tert- iary | Pri- mary | Seco- ndary | Tert- iary | Pri- mary | Seco- ndary | Tert- iary |
| India | | | | | | | | | |
| 1961 | 75.6 | 11.2 | 13.2 | 71.0 | 12.3 | 16.7 | 85.5 | 8.9 | 5.6 |
| 1972-73 | 73.9 | 11.3 | 14.8 | 68.8 | 12.8 | 18.4 | 84.3 | 8.2 | 7.5 |
| 1977-78 | 71.0 | 12.6 | 16.3 | 65.6 | 14.2 | 20.3 | 81.8 | 9.5 | 8.7 |
| 1983 | 68.6 | 13.8 | 17.6 | 62.1 | 15.7 | 22.2 | 81.2 | 10.3 | 8.5 |
| 1987-88 | 65.0 | 15.9 | 19.1 | 58.7 | 17.4 | 23.9 | 77.7 | 12.8 | 9.5 |
| 1989-90 | 62.1 | 16.2 | 21.7 | 56.5 | 17.0 | 26.5 | 73.9 | 14.8 | 11.3 |
| 1990-91 | 61.9 | 15.7 | 22.4 | 55.8 | 17.4 | 26.8 | 76.4 | 11.4 | 12.2 |
| July-Dec. | | | | | | | | | |
| 1991 | 64.4 | 14.4 | 21.2 | 58.4 | 16.1 | 25.5 | 78.0 | 10.6 | 11.4 |
| 1992 | 65.3 | 14.6 | 20.1 | 59.7 | 16.3 | 24.0 | 77.3 | 11.0 | 11.7 |
| Rural India | | | | | | | | | |
| 1961 | 85.8 | 7.6 | 6.6 | 83.7 | 7.8 | 8.5 | 89.7 | 7.2 | 3.1 |
| 1972-73 | 85.6 | 7.2 | 7.2 | 83.3 | 7.8 | 8.9 | 89.7 | 6.0 | 4.3 |
| 1977-78 | 83.4 | 8.0 | 8.6 | 80.7 | 8.8 | 10.5 | 88.2 | 6.7 | 5.1 |
| 1983 | 81.5 | 9.0 | 9.4 | 77.8 | 10.0 | 12.2 | 87.4 | 7.4 | 4.8 |
| 1987-88 | 78.3 | 11.3 | 10.4 | 74.6 | 12.1 | 13.3 | 84.8 | 10.0 | 5.2 |
| 1989-90 | 75.1 | 12.2 | 12.7 | 71.7 | 12.1 | 16.2 | 81.4 | 12.4 | 6.1 |
| 1990-91 | 75.5 | 10.9 | 13.6 | 71.0 | 12.1 | 16.9 | 84.9 | 8.1 | 7.0 |
| July-Dec. | | | | | | | | | |
| 1991 | 78.8 | 10.1 | 11.1 | 74.9 | 11.2 | 13.9 | 86.3 | 7.9 | 5.8 |
| 1992 | 79.3 | 9.5 | 11.2 | 75.7 | 10.4 | 13.9 | 86.2 | 7.8 | 6.0 |
| Urban India | | | | | | | | | |
| 1961 | 12.9 | 33.7 | 53.4 | 10.2 | 33.9 | 55.9 | 28.6 | 33.0 | 38.4 |
| 1972-73 | 14.8 | 32.2 | 53.0 | 10.7 | 33.1 | 56.2 | 32.9 | 28.8 | 38.3 |
| 1977-78 | 15.2 | 33.2 | 51.6 | 10.6 | 33.7 | 55.7 | 31.9 | 32.4 | 35.7 |
| 1983 | 14.8 | 33.9 | 51.3 | 10.3 | 34.6 | 55.1 | 32.0 | 31.2 | 36.8 |
| 1987-88 | 13.6 | 33.6 | 52.8 | 9.1 | 34.3 | 56.6 | 30.5 | 31.3 | 38.2 |
| 1989-90 | 12.8 | 31.5 | 55.6 | 10.0 | 31.9 | 58.2 | 24.1 | 30.3 | 45.6 |
| 1990-91 | 12.3 | 33.2 | 54.5 | 9.2 | 33.6 | 57.2 | 24.9 | 31.6 | 43.5 |
| July-Dec. | | | | | | | | | |
| 1991 | 12.2 | 30.1 | 57.7 | 9.5 | 30.7 | 59.8 | 23.7 | 28.2 | 48.1 |
| 1992 | 13.1 | 33.6 | 53.3 | 10.7 | 34.3 | 55.0 | 22.4 | 30.8 | 46.8 |

Table 9.2: (India) Industrial Distribution of Workers (in Terms of Usual Status) by Sex and Rural-Urban Residence. 1972-73 to 1987-88

| Sector/Sex/Industry | 1972-73 | 1977-78 | 1983 | 1987-88 |
|-------------------------------|---------|---------|-------|---------|
| India | | | | |
| Persons | | | | |
| 1. Agriculture | 73.9 | 71.0 | 68.6 | 65.0 |
| 2. Mining and Quarrying | 0.4 | 0.4 | 0.6 | 0.7 |
| 3. Manufacturing | 8.8 | 10.2 | 10.7 | 11.1 |
| 4. Electricity, Gas and Water | 0.2 | 0.3 | 0.3 | 0.3 |
| 5. Construction | 1.9 | 1.7 | 2.2 | 3.8 |
| 6. Trade | 5.1 | 6.1 | 6.2 | 7.2 |
| 7. Transport and Storage | 1.8 | 2.1 | 2.5 | 2.6 |
| 8. Services | 7.9 | 8.1 | 8.9 | 9.3 |
| All | 100.0 | 100.0 | 100.0 | 100.0 |
| Males | | | | |
| 1. Agriculture | 68.8 | 65.6 | 62.6 | 58.7 |
| 2. Mining and Quarrying | 0.5 | 0.6 | 0.7 | 0.8 |
| 3. Manufacturing | 9.9 | 11.0 | 11.7 | 11.9 |
| 4. Electricity, Gas and Water | 0.3 | 0.4 | 0.4 | 0.5 |
| 5. Construction | 2.1 | 2.2 | 2.9 | 4.2 |
| 6. Trade | 6.5 | 7.8 | 8.0 | 9.2 |
| 7. Transport and Storage | 2.6 | 3.1 | 3.6 | 3.9 |
| 8. Services | 9.3 | 9.4 | 10.6 | 10.8 |
| All | 100.0 | 100.0 | 100.0 | 100.0 |
| Females | | | | |
| 1. Agriculture | 84.3 | 81.8 | 81.2 | 77.7 |
| 2. Mining and Quarrying | 0.3 | 0.2 | 0.4 | 0.5 |
| 3. Manufacturing | 6.6 | 8.5 | 8.9 | 9.5 |
| 4. Electricity, Gas and Water | - | - | - | - |
| 5. Construction | 1.3 | 0.8 | 1.0 | 2.8 |
| 6. Trade | 2.3 | 2.8 | 2.7 | 3.1 |
| 7. Transport and Storage | 0.1 | 0.2 | 0.3 | 0.2 |
| 8. Services | 5.1 | 5.7 | 5.5 | 6.2 |
| All | 100.0 | 100.0 | 100.0 | 100.0 |

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Table 9.2 (contd.)

| Sector/Sex/Industry | 1972-73 | 1977-78 | 1983 | 1987-88 |
|-------------------------------|---------|---------|-------|---------|
| Rural India | | | | |
| Persons | | | | |
| 1. Agriculture | 85.6 | 83.4 | 81.5 | 78.3 |
| 2. Mining and Quarrying | 0.3 | 0.4 | 0.5 | 0.6 |
| 3. Manufacturing | 5.4 | 6.2 | 6.8 | 7.2 |
| 4. Electricity, Gas and Water | 0.1 | 0.1 | 0.1 | 0.2 |
| 5. Construction | 1.4 | 1.3 | 1.6 | 3.3 |
| 6. Trade | 2.5 | 3.3 | 3.4 | 4.0 |
| 7. Transport and Storage | 0.6 | 0.8 | 1.1 | 1.3 |
| 8. Services | 4.1 | 4.5 | 4.9 | 5.1 |
| All | 100.0 | 100.0 | 100.0 | 100.0 |
| Males | | | | |
| 1. Agriculture | 83.3 | 80.7 | 77.8 | 74.6 |
| 2. Mining and Quarrying | 0.4 | 0.5 | 0.6 | 0.7 |
| 3. Manufacturing | 5.7 | 6.4 | 7.0 | 7.4 |
| 4. Electricity, Gas and Water | 0.1 | 0.2 | 0.2 | 0.3 |
| 5. Construction | 1.6 | 1.7 | 2.2 | 3.7 |
| 6. Trade | 3.1 | 4.0 | 4.4 | 5.1 |
| 7. Transport and Storage | 1.0 | 1.2 | 1.7 | 2.0 |
| 8. Services | 4.8 | 5.3 | 6.1 | 6.2 |
| All | 100.0 | 100.0 | 100.0 | 100.0 |
| Females | | | | |
| 1. Agriculture | 89.7 | 88.2 | 87.8 | 84.8 |
| 2. Mining and Quarrying | 0.2 | 0.2 | 0.3 | 0.4 |
| 3. Manufacturing | 4.7 | 5.9 | 6.4 | 6.9 |
| 4. Electricity, Gas and Water | - | - | - | - |
| 5. Construction | 1.1 | 0.6 | 0.7 | 2.7 |
| 6. Trade | 1.5 | 2.0 | 1.9 | 2.1 |
| 7. Transport and Storage | - | 0.1 | 0.1 | 0.1 |
| 8. Services | 2.8 | 3.0 | 2.8 | 3.0 |
| All | 100.0 | 100.0 | 100.0 | 100.0 |

Table 9.2 (contd.)

| Sector/Sex/Industry | 1972-73 | 1977-78 | 1983 | 1987-88 |
|-------------------------------|---------|---------|-------|---------|
| Urban India | | | | |
| Persons | | | | |
| 1. Agriculture | 14.8 | 15.2 | 14.8 | 13.6 |
| 2. Mining and Quarrying | 1.0 | 0.8 | 1.2 | 1.2 |
| 3. Manufacturing | 26.3 | 27.9 | 27.0 | 26.1 |
| 4. Electricity, Gas and Water | 0.8 | 0.8 | 0.9 | 0.9 |
| 5. Construction | 4.1 | 3.7 | 4.8 | 5.4 |
| 6. Trade | 18.2 | 18.8 | 17.8 | 19.2 |
| 7. Transport and Storage | 7.7 | 8.0 | 8.2 | 7.8 |
| 8. Services | 27.1 | 24.8 | 25.3 | 25.8 |
| All | 100.0 | 100.0 | 100.0 | 100.0 |
| Males | | | | |
| 1. Agriculture | 10.7 | 10.6 | 10.3 | 9.1 |
| 2. Mining and Quarrying | 1.0 | 0.9 | 1.3 | 1.3 |
| 3. Manufacturing | 26.8 | 27.5 | 27.0 | 25.9 |
| 4. Electricity, Gas and Water | 0.9 | 1.1 | 1.1 | 1.2 |
| 5. Construction | 4.4 | 4.2 | 5.2 | 5.9 |
| 6. Trade | 20.1 | 21.6 | 20.2 | 21.7 |
| 7. Transport and Storage | 9.1 | 9.8 | 9.9 | 9.6 |
| 8. Services | 27.0 | 24.3 | 25.0 | 25.3 |
| All | 100.0 | 100.0 | 100.0 | 100.0 |
| Females | | | | |
| 1. Agriculture | 32.9 | 31.9 | 32.0 | 30.5 |
| 2. Mining and Quarrying | 1.4 | 0.5 | 0.8 | 0.7 |
| 3. Manufacturing | 24.6 | 29.6 | 27.1 | 26.9 |
| 4. Electricity, Gas and Water | 0.1 | 0.1 | - | 0.2 |
| 5. Construction | 2.7 | 2.2 | 3.3 | 3.5 |
| 6. Trade | 9.6 | 8.7 | 9.0 | 9.9 |
| 7. Transport and Storage | 1.4 | 1.0 | 1.6 | 0.7 |
| 8. Services | 27.4 | 26.0 | 26.2 | 27.6 |
| All | 100.0 | 100.0 | 100.0 | 100.0 |

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Table 9.3: (India) Broad Industrial Distribution of Principal Status or Main Workers by Sex and Rural-Urban Residence, 1977-78 to 1991

| Year/Source | Agri- culture | Mining and Quarr- ying | Manu- factur- ing | Const- ruction | Trans- port, Storage and Comm- unicatin | Others | Total |
|--------------------|------------------|---------------------------------|-------------------------|-------------------|--|--------|-------|
| India | | | | | | | |
| Males | | | | | | | |
| 1977-78 (NSS) | 66.9 | 0.6 | 10.5 | 2.2 | 2.9 | 16.9 | 100.0 |
| 1981 (Census)* | 65.7 | 0.6 | 12.1 | 1.9 | 3.4 | 16.3 | 100.0 |
| 1983 (NSS) | 61.1 | 0.7 | 11.9 | 3.0 | 3.7 | 19.6 | 100.0 |
| 1987-88 (NSS) | 57.0 | 0.9 | 12.4 | 4.2 | 4.1 | 21.4 | 100.0 |
| 1991 (Census)* | 62.7 | 0.7 | 11.0 | 2.3 | 3.5 | 19.8 | 100.0 |
| Females | | | | | | | |
| 1977-78(NSS) | 80.1 | 0.3 | 8.6 | 1.0 | 0.2 | 9.8 | 100.0 |
| 1981 (Census)* | 82.1 | 0.4 | 8.2 | 0.9 | 0.4 | 8.0 | 100.0 |
| 1983 (NSS) | 78.4 | 0.4 | 9.0 | 1.3 | 0.3 | 10.6 | 100.0 |
| 1987-88(NSS) | 74.0 | 0.6 | 10.2 | 3.4 | 0.2 | 11.6 | 100.0 |
| 1991 (Census)* | 80.8 | 0.3 | 7.4 | 0.7 | 0.3 | 10.5 | 100.0 |
| Persons | | | | | | | |
| 1977-78 (NSS) | 70.4 | 0.5 | 10.4 | 1.8 | 2.1 | 14.8 | 100.0 |
| 1981 (Census)* | 68.8 | 0.6 | 11.3 | 1.7 | 2.8 | 14.8 | 100.0 |
| 1983 (NSS) | 65.9 | 0.7 | 11.1 | 2.4 | 2.8 | 17.1 | 100.0 |
| 1987-88 (NSS) | 61.8 | 0.8 | 11.8 | 4.0 | 3.0 | 18.6 | 100.0 |
| 1991 (Census)* | 66.8 | 0.6 | 10.2 | 2.0 | 2.8 | 17.6 | 100.0 |
| Rural India | | | | | | | |
| Males | | | | | | | |
| 1977-78 (NSS) | 80.4 | 0.5 | 6.5 | 1.7 | 1.3 | 9.6 | 100.0 |
| 1981 (Census)* | 81.7 | 0.5 | 6.7 | 1.2 | 1.4 | 8.5 | 100.0 |
| 1983 (NSS) | 77.2 | 0.6 | 7.1 | 2.3 | 1.7 | 11.1 | 100.0 |
| 1987-88 (NSS) | 73.9 | 0.7 | 7.6 | 3.7 | 2.1 | 12.0 | 100.0 |
| 1991 (Census)* | 79.8 | 0.5 | 6.0 | 1.3 | 1.6 | 10.8 | 100.0 |
| Females | | | | | | | |
| 1977-78(NSS) | 86.8 | 0.3 | 6.1 | 0.7 | 0.1 | 6.0 | 100.0 |
| 1981 (Census)* | 89.1 | 0.3 | 5.9 | 0.6 | 0.1 | 4.0 | 100.0 |
| 1983 (NSS) | 86.2 | 0.4 | 6.5 | 0.9 | 0.1 | 5.9 | 100.0 |
| 1987-88 (NSS) | 82.5 | 0.5 | 7.5 | 3.2 | 0.1 | 6.2 | 100.0 |
| 1991 (Census)* | 89.5 | 0.3 | 5.3 | 0.3 | 0.1 | 4.5 | 100.0 |
| Persons | | | | | | | |
| 1977-78 (NSS) | 82.4 | 0.4 | 6.3 | 1.4 | 0.9 | 8.6 | 100.0 |
| 1981 (Census)* | 83.4 | 0.4 | 6.5 | 1.0 | 1.1 | 7.6 | 100.0 |
| 1983 (NSS) | 80.0 | 0.5 | 6.9 | 1.9 | 1.2 | 9.5 | 100.0 |
| 1987-88 (NSS) | 76.6 | 0.6 | 7.6 | 3.6 | 1.5 | 10.1 | 100.0 |
| 1991 (Census)* | 82.3 | 0.5 | 5.8 | 1.0 | 1.2 | 9.2 | 100.0 |

Table 9.3 (contd.)

| Year/Source | Agriculture | Mining and quarrying | Manufacturing | Construction | Transport, Storage and Communication | Others | Total |
|----------------|-------------|----------------------|---------------|--------------|--------------------------------------|--------|-------|
| Urban India | | | | | | | |
| Males | | | | | | | |
| 1977-78 (NSS) | 10.2 | 0.9 | 27.6 | 4.2 | 9.9 | 47.2 | 100.0 |
| 1981 (Census)* | 11.7 | 1.1 | 30.3 | 4.3 | 10.0 | 42.6 | 100.0 |
| 1983 (NSS) | 9.7 | 1.2 | 27.0 | 5.1 | 10.1 | 46.9 | 100.0 |
| 1987-88 (NSS) | 8.5 | 1.3 | 26.0 | 5.8 | 9.8 | 48.6 | 100.0 |
| 1991 (Census)* | 12.1 | 1.2 | 25.7 | 5.3 | 9.2 | 46.5 | 100.0 |
| Females | | | | | | | |
| 1977-78 (NSS) | 25.1 | 0.6 | 29.4 | 2.6 | 1.2 | 41.1 | 100.0 |
| 1981 (Census)* | 23.1 | 0.7 | 25.0 | 3.1 | 2.2 | 45.9 | 100.0 |
| 1983 (NSS) | 25.5 | 0.8 | 26.0 | 3.7 | 1.7 | 42.3 | 100.0 |
| 1987-88 (NSS) | 21.8 | 0.9 | 26.9 | 4.3 | 1.2 | 44.9 | 100.0 |
| 1991 (Census)* | 22.3 | 0.7 | 21.7 | 3.3 | 1.9 | 50.1 | 100.0 |
| Persons | | | | | | | |
| 1977-78 (NSS) | 12.9 | 0.9 | 28.0 | 3.9 | 8.3 | 46.0 | 100.0 |
| 1981 (Census)* | 13.0 | 1.1 | 29.7 | 4.1 | 9.1 | 43.0 | 100.0 |
| 1983 (NSS) | 12.6 | 1.1 | 26.8 | 4.9 | 8.6 | 46.0 | 100.0 |
| 1987-88 (NSS) | 10.9 | 1.3 | 26.1 | 5.6 | 8.3 | 47.8 | 100.0 |
| 1991 (Census)* | 13.4 | 1.1 | 25.2 | 5.1 | 8.2 | 47.0 | 100.0 |

Sources:

1. Census of India 1991, Paper 2 of 1992, *Final Population Totals Brief Analysis of Primary Census Abstract*, New Delhi, 1993.

2. *Sarvekshana*, Special No., September 1990, Vol. XI, No. 4 and Vol. V, Nos. 1 and 2.

Note: The 1981 and the 1991 Census data relate to "main" workers, whereas, the NSS data pertain to workers in terms of "principal status".

* Excluding Assam and Jammu and Kashmir

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Table 9.4: (India) Occupational Distribution of Workers by Sex and Rural Urban Residence. NSS, 1960-61 or 1961-62, 1983 and 1987-88

| Occupational Groups | Females | | | Males | | |
|--|---------|-------|---------|---------|-------|---------|
| | 1960-61 | 1983 | 1987-88 | 1960-61 | 1983 | 1987-88 |
| Rural Areas | | | | | | |
| Professional, technical and related workers | 2.0 | 1.1 | 0.9 | 2.7 | 2.5 | 2.2 |
| Teachers | * | 0.5 | 0.6 | * | 1.3 | 1.3 |
| Others | * | 0.6 | 0.3 | * | 1.2 | 0.9 |
| Administrative, executive and managerial workers | N | 0.2 | 0.4 | 0.4 | 0.5 | 0.8 |
| Clerical, transport, communication and related workers | 0.1 | 0.1 | 0.2 | 1.8 | 1.6 | 1.7 |
| Clerical and related workers | N | * | * | 0.7 | * | * |
| Transport, communication and related workers | N | * | * | 1.1 | * | * |
| Sales workers including financial operators | 1.5 | 2.0 | 2.1 | 3.7 | 3.9 | 4.6 |
| Merchants and shopkeepers | * | 1.3 | 1.4 | * | 2.7 | 3.4 |
| Others | * | 0.7 | 0.7 | * | 1.2 | 1.2 |
| Service workers | 2.8 | 2.1 | 2.2 | 2.0 | 2.2 | 2.3 |
| House keepers, matron and stewards, cooks, waiters, maids, building care takers, sweepers, cleaners etc. | * | * | * | * | * | * |
| Launderers, dry cleaners, hair dressers etc. | * | 0.8 | 0.8 | * | 0.9 | 1.0 |
| Others | * | 1.3 | 1.3 | * | 1.3 | 1.3 |
| Farmers, fishermen, hunters and related workers | 85.9 | 87.1 | 85.6 | 80.0 | 77.4 | 74.6 |
| Cultivators, owners and tenants | * | 38.6 | 38.3 | * | 44.0 | 42.0 |
| Agricultural labourers | 24.1 | 31.8 | 33.0 | 20.6 | 26.1 | 26.3 |
| Others | * | 16.7 | 14.3 | * | 7.3 | 6.3 |
| Production and related workers, transport equipments operators and labourers | 7.2 | 7.4 | 8.6 | 9.0 | 11.9 | 15.5 |
| Miners, quarrymen, well drillers, etc. | 0.4 | 0.3 | 0.3 | 0.7 | 0.4 | 0.4 |
| Metal processors | * | * | * | * | * | * |
| Spinners, weavers, knitters, dyers etc., | * | 1.6 | 1.7 | * | 1.1 | 1.3 |
| Food and beverage processors | * | * | * | * | * | * |
| Tailors, dress makers | * | * | * | * | * | * |
| Brick layers and other construction workers | * | 0.1 | 0.7 | * | 0.7 | 1.8 |
| Transport equipment operators | * | * | * | * | * | * |
| Labourers, n.e.c. | * | * | * | * | * | * |
| Others | * | 5.4 | 5.9 | * | 9.7 | 10.3 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

* In 1961-62, 0.9 and 1.5 per cent of male and female workers respectively, were classified in the category "occupation not recorded".

Table 9.4 (contd.)

| Occupational Groups | Females | | | Males | | |
|--|---------|------|---------|---------|------|---------|
| | 1960-61 | 1983 | 1987-88 | 1960-61 | 1983 | 1987-88 |
| Urban Areas | | | | | | |
| Professional, technical and related workers | 6.7 | 9.9 | 4.8 | 10.6 | 7.6 | 7.0 |
| Teachers | 4.6 | 6.5 | 7.7 | 1.7 | 2.3 | 2.2 |
| Others | 2.1 | 3.4 | 2.9 | 3.1 | 5.3 | 4.8 |
| Administrative, executive and managerial workers | 1.1 | 2.0 | 2.5 | 3.9 | 4.3 | 5.4 |
| Clerical, transport, communication and related workers | 1.1 | 4.1 | 4.7 | 12.1 | 10.8 | 11.1 |
| Clerical and related workers | 0.9 | 3.8 | 4.4 | 10.2 | 9.7 | 9.9 |
| Transport, communication and related workers | 0.2 | 0.3 | 0.3 | 1.9 | 1.1 | 1.2 |
| Sales workers including financial operators | 7.8 | 8.0 | 8.5 | 16.0 | 17.6 | 18.6 |
| Merchants and shopkeepers | 4.2 | 5.2 | 5.5 | 9.3 | 10.7 | 11.9 |
| Others | 3.6 | 2.8 | 3.0 | 6.7 | 6.9 | 6.7 |
| Service workers | 16.2 | 14.9 | 14.8 | 8.3 | 8.7 | 8.5 |
| House keepers, matron and stewards, cooks, waiters, maids, building care takers, sweepers, cleaners etc. | 13.4 | 12.3 | 11.4 | 4.0 | 3.3 | 3.5 |
| Launderers, dry cleaners, hair dressers etc. | 2.5 | 1.6 | 1.8 | 1.8 | 1.4 | 1.2 |
| Others | 0.3 | 1.0 | 1.6 | 2.5 | 4.0 | 3.8 |
| Farmers, fishermen, hunters and related workers | 30.7 | 30.9 | 27.9 | 13.5 | 10.5 | 8.9 |
| Cultivators, owners and tenants | * | * | * | * | * | * |
| Agricultural labourers | * | * | * | * | * | * |
| Others | * | * | * | * | * | * |

Table 9.4 (contd.)

| Occupational Groups | Females | | | Males | | |
|--|---------|-------|---------|---------|-------|---------|
| | 1960-61 | 1983 | 1987-88 | 1960-61 | 1983 | 1987-88 |
| Production and related workers, transport equipments operators and labourers | 33.0 | 30.1 | 31.0 | 39.4 | 40.5 | 40.4 |
| Miners, quarrymen, well drillers, etc. | 0.5 | 0.2 | 0.3 | 0.2 | 0.6 | 0.8 |
| Metal processors | 0.3 | 0.0 | 0.1 | 1.0 | 0.8 | 0.8 |
| Spinners, weavers, knitters, dyers etc. | 9.6 | 6.3 | 5.8 | 6.2 | 4.8 | 3.8 |
| Food and beverage processors | 4.1 | 1.3 | 1.4 | 2.0 | 1.5 | 1.5 |
| Tailors, dress makers | 1.8 | 4.6 | 5.1 | 2.0 | 2.7 | 2.6 |
| Brick layers and other construction workers | 1.6 | 1.9 | 2.5 | 2.6 | 2.6 | 2.9 |
| Transport equipment operators | 0.1 | 0.3 | 0.2 | 4.1 | 5.5 | 5.6 |
| Labourers, n.e.c. | 4.5 | 3.4 | 3.6 | 7.3 | 4.4 | 4.6 |
| Others | 10.5 | 12.1 | 12.0 | 14.0 | 17.6 | 17.8 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Sources:

1. NSS Report No. 127. *Tables with Notes on Urban Labour Force*. (17th Round, 1961-62)
2. NSS Report No. 190. *Tables with Notes on Employment and Unemployment in Rural Area* (17th Round, 1961-62).
3. *Sarvekshana*, Vol. XI, No. 4 and Special Number, September 1990.

Note: The 1961-62 figures are based on the current weekly status approach and only close approximations as exact one to one correspondence between the occupational categories used in the 1961-62 and the 1983 and 1987-88 surveys was not possible at the occupational grouping levels for which the estimates are available.

* Separately not available.

The proportion shown under "inadmissible categories" in 1987-88 has been distributed pro-rata among the other groups.

In 1961-62, 2.0 and 3.4 per cent of male and female workers respectively were classified in the category "occupation not recorded".

Table 9.5: (India) Status Distribution of Workers (in Terms of Usual Status) by Sex and Rural-Urban Residence, 1972-73 to 1992

| Sector/Sex | Year | Round | Self - Employed | Regular Employees | Casual Labour |
|----------------|--------------|-------|--------------------|----------------------|------------------|
| India | | | | | |
| Persons | | | | | |
| | 1972-73 | 27th | 61.4 | 15.4 | 23.2 |
| | 1977-78 | 32nd | 58.9 | 13.9 | 27.2 |
| | 1983 | 38th | 57.3 | 13.8 | 28.9 |
| | 1987-88 | 43rd | 56.0 | 14.4 | 29.6 |
| | 1989-90 | 45th | 56.7 | 13.9 | 29.4 |
| | 1990-91 | 46th | 53.6 | 16.4 | 30.0 |
| | July-Dec. 91 | 47th | 55.4 | 13.7 | 30.9 |
| | Jan.-Dec. 92 | 48th | 56.2 | 13.1 | 30.7 |
| Males | | | | | |
| | 1972-73 | 27th | 60.5 | 19.8 | 19.7 |
| | 1977-78 | 32nd | 58.0 | 18.3 | 23.7 |
| | 1983 | 38th | 55.9 | 18.1 | 26.0 |
| | 1987-88 | 43rd | 54.5 | 18.2 | 27.3 |
| | 1989-90 | 45th | 55.4 | 17.6 | 27.0 |
| | 1990-91 | 46th | 52.0 | 20.6 | 27.4 |
| | July-Dec. 91 | 47th | 55.3 | 16.9 | 27.8 |
| | Jan.-Dec. 92 | 48th | 56.0 | 16.0 | 28.0 |
| Females | | | | | |
| | 1972-73 | 27th | 63.1 | 6.3 | 30.6 |
| | 1977-78 | 32nd | 60.8 | 5.3 | 33.9 |
| | 1983 | 38th | 60.0 | 5.4 | 34.6 |
| | 1987-88 | 43rd | 59.0 | 6.8 | 34.2 |
| | 1989-90 | 45th | 59.3 | 6.3 | 34.4 |
| | 1990-91 | 46th | 57.2 | 7.0 | 35.8 |
| | July-Dec. 91 | 47th | 55.5 | 6.4 | 38.1 |
| | Jan.-Dec. 92 | 48th | 56.8 | 6.7 | 36.5 |

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Table 9.5 (contd.)

| Sector/Sex | Year | Round | Self-Employed | Regular Employees | Casual Labour |
|--------------------|--------------|-------|---------------|-------------------|---------------|
| Rural India | | | | | |
| Persons | | | | | |
| | 1972-73 | 27th | 65.3 | 9.3 | 25.4 |
| | 1977-78 | 32nd | 62.6 | 7.7 | 29.7 |
| | 1983 | 38th | 61.0 | 7.5 | 31.5 |
| | 1987-88 | 43rd | 59.4 | 7.7 | 32.9 |
| | 1989-90 | 45th | 60.1 | 7.4 | 32.5 |
| | 1990-91 | 46th | 56.7 | 9.8 | 33.5 |
| | July-Dec. 91 | 47th | 58.6 | 7.2 | 34.2 |
| | Jan.-Dec. 92 | 48th | 60.2 | 6.5 | 33.3 |
| Males | | | | | |
| | 1972-73 | 27th | 65.9 | 12.1 | 22.0 |
| | 1977-78 | 32nd | 62.8 | 10.6 | 26.6 |
| | 1983 | 38th | 60.5 | 10.3 | 29.2 |
| | 1987-88 | 43rd | 58.6 | 10.0 | 31.4 |
| | 1989-90 | 45th | 59.7 | 9.8 | 30.5 |
| | 1990-91 | 46th | 55.7 | 12.8 | 31.5 |
| | July-Dec. 91 | 47th | 59.5 | 9.2 | 31.3 |
| | Jan.-Dec. 92 | 48th | 60.8 | 8.3 | 30.9 |
| Females | | | | | |
| | 1972-73 | 27th | 64.5 | 4.1 | 31.4 |
| | 1977-78 | 32nd | 62.1 | 2.8 | 35.1 |
| | 1983 | 38th | 61.9 | 2.8 | 35.3 |
| | 1987-88 | 43rd | 60.8 | 3.7 | 35.5 |
| | 1989-90 | 45th | 60.9 | 2.8 | 36.3 |
| | 1990-91 | 46th | 58.6 | 3.8 | 37.6 |
| | July-Dec. 91 | 47th | 56.8 | 3.1 | 40.1 |
| | Jan.-Dec. 92 | 48th | 59.1 | 3.2 | 37.7 |

Table 9.5 (contd.)

| Sector/Sex | Year | Round | Self-Employed | Regular Employees | Casual Labour |
|-------------|--------------|-------|---------------|-------------------|---------------|
| Urban India | | | | | |
| Persons | | | | | |
| | 1972-73 | 27th | 41.2 | 46.3 | 12.5 |
| | 1977-78 | 32nd | 42.4 | 41.8 | 15.8 |
| | 1983 | 38th | 41.8 | 40.0 | 18.2 |
| | 1987-88 | 43rd | 42.8 | 40.3 | 16.9 |
| | 1989-90 | 45th | 43.5 | 38.9 | 17.6 |
| | 1990-91 | 46th | 42.3 | 40.6 | 17.1 |
| | July-Dec. 91 | 47th | 43.7 | 37.7 | 18.6 |
| | Jan.-Dec. 92 | 48th | 41.5 | 37.3 | 21.2 |
| Males | | | | | |
| | 1972-73 | 27th | 39.2 | 50.7 | 10.1 |
| | 1977-78 | 32nd | 40.4 | 46.4 | 13.2 |
| | 1983 | 38th | 40.9 | 43.7 | 15.4 |
| | 1987-88 | 43rd | 41.7 | 43.7 | 14.6 |
| | 1989-90 | 45th | 42.2 | 41.4 | 16.4 |
| | 1990-91 | 46th | 40.8 | 44.2 | 15.0 |
| | July-Dec. 91 | 47th | 43.0 | 39.8 | 17.2 |
| | Jan.-Dec. 92 | 48th | 41.3 | 39.4 | 19.3 |
| Females | | | | | |
| | 1972-73 | 27th | 48.4 | 27.9 | 23.7 |
| | 1977-78 | 32nd | 49.5 | 24.9 | 25.6 |
| | 1983 | 38th | 45.8 | 25.8 | 28.4 |
| | 1987-88 | 43rd | 47.1 | 27.5 | 25.4 |
| | 1989-90 | 45th | 48.6 | 29.2 | 22.2 |
| | 1990-91 | 46th | 49.0 | 25.9 | 25.1 |
| | July-Dec. 91 | 47th | 47.0 | 28.0 | 25.0 |
| | Jan.-Dec. 92 | 48th | 42.5 | 28.8 | 28.7 |

Table 9.6: Average Daily Wage Earnings (in Rupees) of Adult Males/Females Aged 15-59 Years Working as Labourers, NSS Data from 1977-78 to 1987-88

| Type of work | 1977-78 | | | 1983 | | | 1987-88 | | |
|--------------------------------|-------------|-------|---------------------------------------|-------------|-------|---------------------------------------|-------------|-------|---------------------------------------|
| | Fe- male | Male | 'M' Rate as % of 'F' Rate | Fe- male | Male | 'M' Rate as % of 'F' Rate | Fe- male | Male | 'M' Rate as % of 'F' Rate |
| Rural India | | | | | | | | | |
| Agricultural Labour | | | | | | | | | |
| Regular | 3.94 | 3.91 | 99 | 9.53 | 7.53 | 79 | 10.65 | 14.58 | 137 |
| Casual | 2.64 | 3.81 | 144 | 4.89 | 7.21 | 147 | 7.43 | 11.24 | 151 |
| Non-Agricultural Labour | | | | | | | | | |
| Regular | 8.05 | 10.49 | 136 | 10.85 | 16.08 | 148 | 26.28 | 34.90 | 133 |
| Casual | 2.83 | 5.26 | 186 | 5.10 | 10.32 | 202 | 9.11 | 15.73 | 173 |
| Urban India | | | | | | | | | |
| Agricultural Labour | | | | | | | | | |
| Regular | 5.32 | 6.28 | 118 | 9.79 | 12.58 | 129 | 19.05 | 27.59 | 145 |
| Casual | 2.81 | 4.47 | 159 | 5.03 | 8.54 | 170 | 7.63 | 13.08 | 171 |
| Non-Agricultural Labour | | | | | | | | | |
| Regular | 9.87 | 15.10 | 153 | 17.36 | 23.72 | 137 | 34.90 | 42.07 | 121 |
| Casual | 3.12 | 6.57 | 211 | 5.30 | 10.89 | 205 | 9.65 | 17.89 | 185 |

Figures in parentheses are the wage-salary earnings adjusted for 1987-88 prices using the average consumer price index of agricultural labourers for "agricultural labour" and average price index of industrial workers for "non-agricultural labour".

Table 9.7: (Rural India) Average Daily Wage Earnings (in Rupees) of Casual Labourers Aged 15-59 by Sex and Type of Manual Work, NSS Data from 1977-78 to 1987-88

| Type of Manual Work | 1977-78 | | | 1983 | | | 1987-88 | | |
|---|---------|------|---------------------------|--------|-------|---------------------------|---------|-------|---------------------------|
| | Female | Male | 'M' Rate as % of 'F' Rate | Female | Male | 'M' Rate as % of 'F' Rate | Female | Male | 'M' Rate as % of 'F' Rate |
| (a) Manual Work in Cultivation | | | | | | | | | |
| Ploughing | 2.87 | 3.89 | 136 | 4.95 | 6.77 | 137 | 8.02 | 10.99 | 137 |
| Sowing | 2.52 | 4.04 | 160 | 5.00 | 7.11 | 142 | 7.60 | 11.50 | 151 |
| Transplanting | 2.84 | 3.90 | 137 | 4.91 | 8.28 | 169 | 7.77 | 10.80 | 139 |
| Weeding | 2.26 | 3.40 | 150 | 4.20 | 6.35 | 151 | 6.28 | 9.76 | 155 |
| Harvesting | 2.89 | 3.90 | 135 | 5.22 | 7.21 | 138 | 7.33 | 10.95 | 149 |
| Others | N.A. | N.A. | - | 5.01 | 7.14 | 143 | 7.41 | 10.88 | 147 |
| (b) Manual Work in other Agricultural Activities | | | | | | | | | |
| Forestry | N.A. | N.A. | - | 4.38 | 6.62 | 151 | 8.69 | 12.19 | 140 |
| Plantation | N.A. | N.A. | - | 7.34 | 9.70 | 132 | 12.27 | 16.86 | 137 |
| Animal Husbandry | N.A. | N.A. | - | 4.85 | 5.67 | 117 | 7.54 | 9.28 | 123 |
| Fisheries | N.A. | N.A. | - | 3.78 | 9.34 | 247 | 13.77 | 20.33 | 148 |
| Others | N.A. | N.A. | - | 4.57 | 8.15 | 178 | 8.42 | 12.47 | 148 |
| (c) Manual | | | | | | | | | |
| Work in Non-Agricultural Activities | 2.84 | 5.26 | 185 | 5.11 | 10.53 | 206 | 9.05 | 15.69 | 173 |
| (d) Manual | | | | | | | | | |
| Work in Public Works | 2.79 | 4.48 | 161 | 5.41 | 8.66 | 160 | 9.34 | 12.69 | 136 |

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Table 9.8: (India) Average Daily Salary Earnings (in Rupees) of Regular Employees in Selected Occupations by Sex and Rural-Urban Residence, NSS Data for 1987-88

| Occupation | Rural | | | Urban | | |
|---|--------|-------|---------------------------------|--------|-------|---------------------------------|
| | Female | Male | 'M' Rate as % of 'F' Rate | Female | Male | 'M' Rate as % of 'F' Rate |
| Physicians and Surgeons | N.A. | N.A. | - | 83.76 | 80.25 | 96 |
| Nursing and Other Medical Technicians | 36.32 | 41.13 | 113 | 39.92 | 40.30 | 101 |
| Teachers | 35.37 | 46.10 | 130 | 46.03 | 58.99 | 128 |
| Other Professional, Technical and Related Workers | 34.58 | 46.70 | 135 | 43.86 | 67.98 | 155 |
| Administrative, Executive and Managerial Workers | 29.86 | 58.97 | 197 | 84.32 | 88.94 | 105 |
| Clerical and Related Workers | 32.88 | 35.64 | 108 | 44.30 | 45.66 | 103 |
| Housekeepers, Caretakers etc. | N.A. | N.A. | - | 14.87 | 23.57 | 159 |
| Launderers, Hairdressers etc. | 5.63 | 8.87 | 158 | 18.64 | 23.51 | 126 |
| Plantation, Dairy and Other Managers | 21.35 | 41.55 | 195 | N.A. | N.A. | - |
| Spinners, Weavers, Knitters etc. | 12.94 | 23.70 | 183 | 14.79 | 29.74 | 201 |
| All | 21.56 | 30.14 | 140 | 34.76 | 41.87 | 120 |

Table 9.9: (Rural India) Percentage Distribution of Working Days Engaged in Different Operations by Status of Work and Sex. NSS Data for 1977-78 to 1987-88

| Types of Operation | Females | | | Males | | | |
|---|---------|-------|---------|---------|-------|---------|-----|
| | 1977-78 | 1983 | 1987-88 | 1977-78 | 1983 | 1987-88 | |
| All Working Days | | | | | | | |
| (a) Manual Work in cultivation | | | | | | | |
| All | 80.7 | 64.2 | 34.8 | 73.7 | 58.3 | 3.1 | |
| Ploughing | 1.2 | 1.4 | 0.5 | 10.9 | 9.3 | 0.4 | |
| Sowing | 1.3 | 2.6 | 1.0 | 1.5 | 3.0 | 0.1 | |
| Transplanting | 4.8 | 3.7 | 2.0 | 2.1 | 1.9 | 0.1 | |
| Weeding | 12.3 | 11.8 | 6.2 | 5.7 | 5.5 | 0.4 | |
| Harvesting | 16.3 | 17.3 | 8.8 | 9.9 | 11.0 | 0.6 | |
| Others | 44.8* | 27.4 | 16.3 | 43.6* | 27.6 | 1.5 | |
| (b) Manual work in other Agricultural Activities | | | | | | | |
| All | N.A. | 16.6 | 44.1 | N.A. | 13.8 | 68.4 | |
| Forestry | N.A. | 1.0 | 0.5 | N.A. | 0.9 | - | |
| Plantation | N.A. | 0.9 | 0.3 | N.A. | 0.7 | 0.1 | |
| Animal Husbandry | N.A. | 8.3 | 4.9 | N.A. | 5.5 | 0.4 | |
| Fisheries | N.A. | 0.4 | - | N.A. | 0.5 | - | |
| Others | N.A. | 6.0 | 38.4 | N.A. | 6.2 | 67.9 | |
| (c) Manual work in Non-Agricultural Activities | | | | | | | |
| All | 13.8 | 13.1 | 16.5 | 15.2 | 16.7 | 26.0 | |
| (d) Non-Manual work | | | | | | | |
| All | 5.5 | 6.1 | 4.6 | 11.1 | 11.2 | 2.4 | |
| Cultivation | } | 1.1 | 0.6 | } | 2.0 | 0.2 | |
| Other Agricultural Activities | | 2.6 | 0.6 | | 0.7 | 4.3 | 0.8 |
| Non-Agricultural Activities | | 2.9 | 4.4 | | 3.3 | 6.8 | 8.4 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | |
| Average number of days worked during the reference period | 5.9 | 5.8 | 6.6 | 6.7 | 6.7 | 7.0 | |

Table 9.9 (contd.)

| Types of Operation | Females | | | Males | | | | |
|---|---------|-------|---------|---------|-------|---------|-----|-----|
| | 1977-78 | 1983 | 1987-88 | 1977-78 | 1983 | 1987-88 | | |
| Casual Labour | | | | | | | | |
| (a) Manual Work in Cultivation | | | | | | | | |
| All | 86.2 | 74.3 | 36.8 | 79.6 | 66.2 | 3.7 | | |
| Ploughing | 1.0 | 1.0 | 0.4 | 10.7 | 9.0 | 0.4 | | |
| Sowing | 1.4 | 2.4 | 1.0 | 1.3 | 2.5 | 0.1 | | |
| Transplanting | 9.4 | 5.9 | 3.3 | 3.5 | 2.7 | 0.2 | | |
| Weeding | 17.3 | 14.9 | 7.6 | 7.5 | 6.5 | 0.4 | | |
| Harvesting | 23.2 | 23.0 | 11.1 | 14.9 | 15.3 | 0.8 | | |
| Others | 33.9* | 27.1 | 13.4 | 41.7* | 30.2 | 1.6 | | |
| (b) Manual Work in other Agricultural Activities | | | | | | | | |
| All | N.A. | 8.9 | 42.1 | N.A. | 10.6 | 69.6 | | |
| Forestry | N.A. | 0.7 | 0.2 | N.A. | 1.0 | - | | |
| Plantation | N.A. | 1.0 | 0.4 | N.A. | 1.1 | 0.2 | | |
| Animal Husbandry | N.A. | 0.5 | 0.2 | N.A. | 1.2 | 0.1 | | |
| Fisheries | N.A. | 0.5 | - | N.A. | 0.3 | - | | |
| Others | N.A. | 6.2 | 41.3 | N.A. | 7.0 | 69.3 | | |
| (c) Manual Work in Non-Agricultural Activities | | | | | | | | |
| | 12.9 | 14.2 | 19.2 | 18.7 | 20.0 | 26.4 | | |
| (d) Non-Manual work | | | | | | | | |
| All | 0.9 | 2.6 | 1.9 | 1.7 | 3.3 | 0.5 | | |
| Cultivation | } | 0.5 | 0.1 | } | 0.4 | - | | |
| Other Agricultural | | } | 0.6 | | 0.7 | } | 0.6 | 0.1 |
| Activities | | | 0.3 | | 0.6 | | 0.6 | 0.1 |
| Non-Agricultural | | 0.3 | 1.8 | 1.2 | 1.0 | 2.3 | | |
| Activities | | | | | | 0.4 | | |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | |

Source: Sarvekshana, Vol. V, Nos. 1 and 2, Vol. XI, No. 4, and Special Number, September 1990.

* Includes all cultivation as well as other agricultural related activities other than the five specified above.

10 Incidence of Unemployment

The discussion so far has concentrated on the WPRs and the structure of employment. There is some interest in looking also at the unemployment rates by sex. It is useful to examine these rates in terms of the percentage of labour force that is unemployed, or the incidence of unemployment. (The alternative approach of showing the unemployed as percentage of population is not quite useful because it does not take account of the information relating to the proportion of population willing to undertake economic activity, i.e., the labour force participation rates).

Table 10.1 summarises the estimates of unemployment provided by successive rounds of the NSS, by sex, and according to the three alternative concepts. The data do not show any sharp increase in the incidence of unemployment, although the population and the labour force and the number of unemployed persons have certainly risen over the intervening 15-year period. It is evident that according to the current weekly and current daily statuses, the incidence of unemployment during 1987-88 was higher among females (5 and 8 per cent respectively) than among males (5 and 6 per cent, respectively). However, the higher rate of unemployment among females does not imply a larger number of unemployed women than of unemployed men. The reason lies in the much higher labour force participation rates of men than of women. Albeit, at another level, the gender-differential in labour force participation rates reflects the centuries old practices of entrusting household chores to women.

For a closer look into the incidence of unemployment, Tables 10.2 and 10.3 show rates by age and by educational attainment. During 1987-88, unemployment was relatively very high among both males and females aged 15-19 and 20-24 years in rural, as well as, urban India, with the urban rates much higher than the rural. Further, urban females aged 20-44 and rural females of age 25 years and above showed relatively higher unemployment rates than males of the same age-groups (see Table 10.2).

Data shown in Table 10.3 suggest that unemployment was very high among urban females with middle level and higher education, 14 to 19 per cent during 1987-88, while the corresponding rates for urban males were only 7 to 8 per cent. Similarly, matriculate and graduate rural women reported very high unemployment rates (23-30 per cent) compared to "educated" rural males (7 to 10 per cent), presumably because of their restricted mobility.

The high rates of unemployment among the youth reflect the problems faced by the new entrants into the working force in finding an opportunity for economic activity and earning an income. The children of the self-employed are often able to join the family enterprise but that option is ordinarily not open to the children of the wage and salary earners (except perhaps for the highly educated, whose skills are in demand). The insistence of the potential employers for prior work experience adds to the difficulties of the work-seekers. The government scheme of apprenticeship does not always meet the needs of the youth with only very general skills. The waiting period before finding the first job, therefore, turns out to be quite long, particularly for the better-educated.

The higher unemployment rates of the matriculate and graduate women in rural areas are a result of the fact that most of them seek urban-type white collar jobs, which are difficult to find in the villages. Apart from teaching and/or working as health workers, the educated women in rural India can find non-manual or white collar work only in retail trade and commerce. The teachers and health workers have to process

certain minimum qualifications and the aspirants have to compete for them. There are reports that in several States, these work opportunities increasingly command a premium; a donation or a capital payment to the employer institution or the decision-makers is alleged to be a precondition of getting a job. Persons unable to meet such demands have to put up with prolonged unemployment. Besides, with respect to the "contacts" and probably the relative ranking, in terms of class or grade or the percentage of marks obtained, or the combination(s) of subjects selected in the highest examination, the educated in rural areas face a disadvantage relative to their urban counterparts. The rural-urban differences in respect of the quality of schooling facilities persist and lead to a considerable amount of frustration and suffering among the youth who have nominally similar educational qualifications but cannot really compete with the urban-based aspirants for job opportunities. These extremely complex problems exist also between the residents of metropolitan and smaller cities or towns and they are unlikely to be solved without an overhaul of the educational institutions in rural areas. The well-known rigidities of the Indian system make any effort in this direction extremely difficult.

Table 10.1: (India) Incidence of Unemployment According to Alternative Concepts, by Sex and Rural-Urban Residence, NSS Data for 1972-73 to 1987-88

| Concept/ Year | India | | | Rural India | | | Urban India | | |
|----------------------|-------|-----|-----|-------------|-----|-----|-------------|-----|------|
| | F | M | P | F | M | P | F | M | P |
| Usual Status | | | | | | | | | |
| 1972-73 | 1.0 | 1.9 | 1.6 | 0.5 | 1.2 | 0.9 | 6.0 | 4.8 | 5.1 |
| 1977-78 | 3.3 | 2.2 | 2.6 | 2.0 | 1.3 | 1.5 | 12.4 | 5.4 | 7.1 |
| 1983 | 1.2 | 2.3 | 1.9 | 0.7 | 1.4 | 1.1 | 4.9 | 5.1 | 5.0 |
| 1987-88 | 2.9 | 2.6 | 2.7 | 2.4 | 1.8 | 2.0 | 6.2 | 5.2 | 5.4 |
| Weekly Status | | | | | | | | | |
| 1972-73 | 5.9 | 3.7 | 4.3 | 5.5 | 3.0 | 3.9 | 9.2 | 6.0 | 6.6 |
| 1977-78 | 5.0 | 4.4 | 4.5 | 4.0 | 3.6 | 3.7 | 10.9 | 7.1 | 7.8 |
| 1983 | 4.8 | 4.4 | 4.5 | 4.3 | 3.7 | 3.9 | 7.5 | 6.7 | 6.8 |
| 1987-88 | 5.0 | 4.8 | 4.8 | 4.3 | 4.2 | 4.2 | 9.2 | 6.6 | 7.0 |
| Daily Status | | | | | | | | | |
| 1972-73 | 11.5 | 7.0 | 8.3 | 11.2 | 6.8 | 8.2 | 13.7 | 8.0 | 9.0 |
| 1977-78 | 10.0 | 7.6 | 8.2 | 9.2 | 7.1 | 7.7 | 14.5 | 9.4 | 10.3 |
| 1983 | 9.3 | 8.0 | 8.3 | 9.0 | 7.5 | 7.9 | 11.0 | 9.2 | 9.6 |
| 1987-88 | 7.5 | 5.6 | 6.1 | 6.7 | 4.6 | 5.2 | 12.0 | 8.8 | 9.4 |

Sources:

1. *Sarvekshana*, - Journal of the National Sample Survey Organization, Vol. XI, No. 4, Issue No. 35, April 1988.2. *Sarvekshana*, Special Number, Sept. 1990, Results of the Fourth Quinquennial Survey on Employment and Unemployment (All India).

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Table 10.2:(India) Usual Status Unemployment Rates by Age-Group, Sex and Rural-Urban Residence, NSS Data for 1987-88

| Age Group | Rural Areas | | | Urban Areas | | |
|--------------|-------------|-------|---------|-------------|-------|---------|
| | Females | Males | Persons | Females | Males | Persons |
| 0-4 | - | - | - | - | - | - |
| 5-9 | - | - | - | - | - | - |
| 10-14 | 1.1 | 1.6 | 1.1 | 1.5 | 7.6 | 5.1 |
| 15-19 | 3.6 | 4.5 | 4.3 | 13.6 | 17.2 | 16.2 |
| 20-24 | 3.9 | 5.0 | 4.7 | 17.8 | 14.9 | 15.4 |
| 25-29 | 2.8 | 2.2 | 2.5 | 8.6 | 5.6 | 6.2 |
| 30-34 | 1.9 | 0.7 | 1.1 | 3.5 | 1.6 | 2.0 |
| 35-39 | 1.8 | 0.5 | 1.0 | 1.6 | 0.8 | 1.0 |
| 40-44 | 1.6 | 0.5 | 1.0 | 1.0 | 0.4 | 0.5 |
| 45-49 | 1.7 | 0.3 | 0.9 | 0.3 | 0.4 | 0.3 |
| 50-54 | 1.3 | 0.3 | 0.7 | 0.4 | 0.5 | 0.5 |
| 55-59 | 1.1 | 0.2 | 0.4 | - | 0.5 | 0.4 |
| 60 and Above | 0.9 | 0.3 | 0.4 | - | 0.4 | 0.3 |
| All Ages | 2.4 | 1.8 | 2.0 | 6.2 | 5.2 | 5.4 |

Source: *Sarvekshana*, Special Number, September 1990.

Table 10.3: (India) Usual Status Unemployment Rates for Population Aged 15 + by Educational Attainment, Sex and Rural-Urban Residence, NSS Data for 1983 and 1987-88

| Educational Level | Females | | Males | | Persons | |
|---------------------------|-------------|---------|-------|---------|---------|---------|
| | 1983 | 1987-88 | 1983 | 1987-88 | 1983 | 1987-88 |
| | Rural Areas | | | | | |
| Not Literate | 0.1 | 1.7 | 0.3 | 0.5 | 0.2 | 1.0 |
| Literate and Upto Primary | 0.6 | 1.8 | 1.0 | 1.3 | 0.9 | 1.4 |
| Middle | 6.4 | 7.7 | 3.6 | 3.5 | 4.0 | 4.1 |
| Secondary | 19.9 | 23.0 | 6.6 | 6.8 | 7.9 | 8.7 |
| Graduate and Above | 31.1 | 30.4 | 8.2 | 10.2 | 10.1 | 12.0 |
| All | 0.7 | 2.4 | 1.4 | 1.8 | 1.1 | 2.0 |
| | Urban Areas | | | | | |
| Not Literate | 0.4 | 1.0 | 1.6 | 1.5 | 1.1 | 1.2 |
| Literate and Upto Primary | 3.1 | 4.3 | 3.5 | 3.8 | 3.4 | 3.9 |
| Middle | 14.2 | 14.3 | 7.3 | 7.6 | 8.0 | 8.3 |
| Secondary | 19.3 | 17.0 | 7.9 | 7.4 | 9.2 | 8.6 |
| Graduate and Above | 17.5 | 18.7 | 6.5 | 6.7 | 8.1 | 8.9 |
| All | 5.1 | 6.3 | 5.0 | 5.1 | 5.0 | 5.4 |

Source: *Sarvekshana*, Vol. XII, No. 3 and Special No. September 1990.

11 Underemployment Among Female Workers

The NSS surveys attempt to assess the level of underemployment among those classified as usually employed through a set of probing questions. Accordingly, all persons classified as workers in terms of their usual status are asked whether they are available for additional work. Those responding in the affirmative are the "visibly" underemployed in terms of the accepted definitions. Of course, some of these workers may be working long hours but may seek additional work to raise their level of income.

Table 11.1 shows the proportion of females usually employed in terms of their principal status who had indicated that they were available for additional work. The

data are based on three NSS Rounds, 1977-78, 1983 and 1987-88 and are tabulated according to the nature of their usual employment. Evidently, there was a fall in the proportion of underemployed women in rural India, between 1977-78 and 1987-88. In urban India, fall in underemployment seen between 1977-78 and 1983 had been reversed during 1987-88. Underemployment was the highest among casual labourers and less among self-employed or regular employees.

Another question asked in the survey ascertained whether the working person was fully engaged in work during the year or not. This question was addressed only to working persons aged 15 years and over. Those reported to be not fully engaged had unutilised time on their hands and were in effect underemployed. Table 11.2 shows the percentage of workers (in terms of usual principal status) who reported that they were more or less fully engaged in work throughout the years 1983 (38th Round) and 1987-88 (43rd Round) by broad age group and educational level.

For rural India, the 1987-88 Survey reported a higher proportion (almost 91 per cent) of working females fully engaged in work than the 1983 survey (83 per cent), whereas, in urban India, this proportion was almost similar in both the surveys (85 to 86 per cent). The scarcity relief works had probably contributed towards lowering rural underemployment. Overall, however, between 9 to 17 per cent of rural women workers and about 14-15 per cent of the urban female workers were underemployed (in the sense of not being fully engaged in work according to their own perceptions except during 1987-88. Underemployment was higher among rural females than among rural males in 1983, but the situation had changed in 1987-88. In urban areas, underemployment was higher among female workers than among male workers according to both the surveys. The patterns observed for different age-groups and educational levels differed. The illiterate and less educated women (who had reported lower levels of open unemployment) reported a higher level of underemployment than workers educated up to secondary or higher level.

The extent to which these data provide a guide to policy-making is debatable. The public works programme started during 1987-88 had quite probably lowered the level of underemployment, despite the severe drought. Thereafter, in recent years a large number of special employment programmes have been initiated, largely with central funding, as a means of alleviating both poverty and unemployment.³⁹ The effect of these special programmes on the level of unemployment and underemployment particularly among females remains to be assessed particularly because of the well-known leakages and the difficulties of proper targeting. Well-designed micro-studies, through which the effects of these specific programmes can be identified, are difficult to undertake; and few Indian researchers are able to mobilise the financial and professional resources for the purpose.

³⁹ There are three streams of Jawahar Rojgar Yojana. The second stream seeks to ensure flow of additional funds to pockets of unemployment and underemployment in 120 backward districts for taking up public works designed to strengthen physical and social infrastructure in the selected areas. JRY-III was introduced to take up special and innovative projects. Effective January 1, 1996, the JRY-II has been merged with the Employment Assurance Scheme introduced in 1993-94 in 1952 identified blocks and later extended to 3157 blocks to provide assured employment for 100 days of unskilled work to those seeking it. The EAS is essentially patterned on the Employment Guarantee Scheme (EGS) of Maharashtra. In addition, there is the Prime Minister's Rojgar Yojana (PMRY) to promote self-employment among educated youth; and the special employment programme to create two million jobs through the Khadi and Village Industries Corporation in 50 selected districts.

Table 11.1: (India) Percentage of Females Usually Employed in Terms of Principal Status, Reporting Availability for Additional Work, by Category of Employment, NSS Data for 1977-78 to 1987-88

| Category of Employment | Rural | | | Urban | | |
|-------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | 1977-78 | 1983 | 1987-88 | 1977-78 | 1983 | 1987-88 |
| Self-employed in: | | | | | | |
| Agriculture | 10.3 | 7.0 | 5.2 | 8.7 | 5.6 | 11.8 |
| Non-Agriculture | 15.5 | 11.9 | 6.8 | 13.3 | 10.7 | 15.1 |
| Regular-Employees in: | | | | | | |
| Agriculture | 12.5 | 13.1 | 17.1 | 3.7 | 5.3 | 28.0 |
| Non-Agriculture | 15.3 | 11.2 | 6.9 | 9.9 | 8.3 | 9.2 |
| Casual Wage Labour in: | | | | | | |
| Agriculture | 50.6 | 33.1 | 24.6 | 55.0 | 34.9 | 48.9 |
| Non-Agriculture | 37.9 | 23.4 | 14.0 | 39.2 | 22.6 | 40.1 |
| All Usually Employed | 26.6 | 18.1 | 12.7 | 20.7 | 14.6 | 20.3 |

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Table 11.2: (India) Percentage of Workers (in Terms of Usual Principal Activity) Reporting Themselves as 'Fully Engaged in Work' by Education and Broad Age-Group, NSS Data for 1983 and 1987-88

| Age/ Education | Rural | | | | Urban | | | |
|---------------------|-------|------|---------|------|-------|------|---------|------|
| | 1983 | | 1987-88 | | 1983 | | 1987-88 | |
| | F | M | F | M | F | M | F | M |
| 15-24 All | 81.5 | 85.2 | 87.8 | 83.9 | 82.3 | 88.2 | 79.9 | 87.9 |
| Not Literate* | 81.1 | 84.9 | 87.6 | 82.3 | 80.1 | 87.2 | 75.6 | 86.9 |
| Literate upto | | | | | | | | |
| Middle School | 82.9 | 85.2 | 88.2 | 85.0 | 82.3 | 87.4 | 80.1 | 86.6 |
| Secondary | 84.8 | 86.6 | 87.8 | 86.5 | 88.3 | 91.1 | 88.5 | 91.2 |
| Graduates and above | 91.9 | 91.4 | 98.8 | 86.8 | 95.4 | 96.2 | 92.0 | 96.6 |
| 25-29 All | 81.0 | 86.7 | 91.6 | 85.7 | 86.9 | 91.4 | 82.7 | 91.5 |
| Not Literate* | 80.3 | 85.3 | 91.3 | 82.8 | 83.2 | 88.9 | 73.7 | 85.6 |
| Literate upto | | | | | | | | |
| Middle School | 83.6 | 87.0 | 92.3 | 86.4 | 82.0 | 89.6 | 82.2 | 89.7 |
| Secondary | 88.9 | 90.8 | 98.6 | 93.0 | 96.9 | 93.7 | 94.0 | 96.1 |
| Graduates and above | 100.0 | 92.6 | 99.3 | 95.0 | 97.0 | 96.5 | 97.4 | 96.7 |
| 30-59 All | 83.9 | 88.2 | 91.7 | 87.9 | 87.9 | 93.9 | 87.3 | 93.6 |
| Not Literate* | 83.8 | 86.6 | 91.4 | 85.7 | 85.3 | 89.3 | 83.8 | 87.3 |
| Literate upto | | | | | | | | |
| Middle School | 84.0 | 89.5 | 93.3 | 88.8 | 88.7 | 93.4 | 86.1 | 92.6 |
| Secondary | 97.2 | 95.5 | 98.7 | 95.5 | 96.9 | 97.7 | 98.3 | 97.7 |
| Graduates and above | 100.0 | 95.7 | 97.0 | 97.9 | 98.2 | 98.6 | 97.2 | 99.0 |
| 60 and above | | | | | | | | |
| All | 83.4 | 89.8 | 91.5 | 91.1 | 86.5 | 91.7 | 84.4 | 91.5 |
| Not Literate* | 83.5 | 89.4 | 91.5 | 90.1 | 87.8 | 90.4 | 84.8 | 87.5 |
| Literate upto | | | | | | | | |
| Middle School | 80.3 | 90.7 | 91.0 | 92.7 | 74.3 | 92.3 | 79.7 | 92.4 |
| Secondary | 100.0 | 93.5 | 100.0 | 97.2 | 100.0 | 95.3 | 100.0 | 96.8 |
| Graduates and above | - | 90.5 | 100.0 | 98.5 | 100.0 | 94.6 | 98.0 | 97.7 |
| 15 and above | | | | | | | | |
| All | 82.8 | 87.4 | 90.6 | 86.9 | 86.3 | 92.1 | 84.9 | 92.0 |
| Not Literate* | 82.7 | 86.4 | 90.5 | 85.1 | 84.3 | 88.9 | 81.3 | 87.0 |
| Literate upto | | | | | | | | |
| Middle School | 83.3 | 87.9 | 91.1 | 87.7 | 85.0 | 91.1 | 83.3 | 90.7 |
| Secondary | 91.3 | 92.2 | 94.9 | 92.7 | 94.9 | 95.8 | 95.4 | 96.4 |
| Graduates and above | 98.1 | 94.3 | 98.0 | 96.0 | 97.4 | 97.8 | 96.5 | 98.3 |

Source: *Sarvekshana*, Vol. XI, No. 4, April 1988 and Special Number, September 1990.

* Including literates without any formal education for 1983.

12 Women Engaged in Domestic Duties

Like women everywhere in the world, a substantial proportion of Indian women look after the household. Many women who are employed also perform household duties. Most of those who are not employed invariably attend to household duties in one way or the other, irrespective of whether they need or would like to participate in economic activity or not.

The NSS surveys have classified about 35 per cent of all rural women and 44 per cent of urban women (1987-88) as "engaged in household duties" in terms of their usual principal status. Beginning with 1977-78 survey, the NSS has asked some additional questions to these women engaged in household duties about (a) whether they were required to spend most of their time in domestic work, and, if so, reasons thereof; (b) their availability for work, if work is made available in their household premises, and if so, the nature and type of work acceptable and the type of assistance needed; (c) participation in specified activities for the general benefit of their household.

(a) Reason for Attachment to Household Duties

Table 12.1 shows that nearly 88 per cent of rural women and 90 to 91 per cent of urban women engaged in household duties (in terms of their principal activity) reported that they had no option but to carry on the household work, due to various reasons. The most important reason cited was that there was no other member in the household to attend to domestic duties. As is well-known, most Indian men do not share the domestic work thrust on women. Interestingly, "social and religious constraints" were cited by 14 to 18 per cent of the women engaged in household work during 1987-88 as the reason why they were required to spend most of their time in domestic work.

The proportion of women who were not really required to spend most of their time in domestic work but remained housewives because of non-availability of work ranged between 2 and 4 per cent of the total in both 1983 and 1987-88. They can be termed the "discouraged work-seekers" or the unemployed who had dropped out of the labour force. Quite likely, any improvement in the employment opportunities would first draw these women into the work force. Of course, these data are subject to the usual limitation of uncertainty about responses to hypothetical questions; it is also highly probable that the situation can change according to whether the monsoon is normal or not and/or whether an intensive programme of relief works or public works has been initiated.

(b) Availability for Work in the Household Premises

Many Indian women do not want to or are not allowed to come out of their homes for work. Some of them are presumably willing to accept certain types of work if such work is offered in their houses. Table 12.2 shows that between 24 to 29 per cent of the rural housewives aged 15 years and above and 20 to 26 per cent of the urban housewives were willing to undertake suitable work if it was made available in their houses. In rural India, 'dairy activity' was the most preferred work; 'tailoring' and 'spinning and weaving' were each preferred by about 3-4 per cent of rural women engaged in house work. Tailoring was most preferred work by urban housewives. Promotion of these activities can help to raise the income levels of the households in which these women

live and manage the home. The requisite skills are probably possessed by the respondents; but even otherwise, it should not be difficult to impart a modicum of skills.⁴⁰

(c) Assistance Required to Take up Work in the House

Women willing to take up various types of work if the facilities were available in the house was asked about the type of assistance required. As shown in Table 12.3, nearly 70 per cent of rural women and 60 to 65 per cent of urban women reported need for either initial finance or working capital on easy terms. Interestingly, the percentage of rural women seeking initial finance has declined over the three surveys while that of women seeking working capital had risen. The reported need for training seems to have declined in both rural and urban areas. Because of population growth, however, the absolute number of women requiring training or other types of assistance is, however, unlikely to have declined to the same extent.

Organisations and individuals wanting to participate in raising the status of women by taking up income - generating activities and the relevant training work have a most challenging task ahead of them. The past few years have seen the establishment of Women's Economic Development Corporations in several States. Some innovative projects have been launched to set up "Self-Help Groups" (SHGs); their performance needs to be monitored and evaluated to assess whether and how far they can meet the credit needs of income-generating enterprises. There is considerable scope for mutually rewarding collaboration between the non-governmental organisations and banks or similar official agencies.

Table 12.1: Percentage Distribution of Females Engaged in Domestic Duties in Terms of Usual Principal Activity According to Options before them and Underlying Reasons, NSS Data for 1983 and 1987-88

| Reason | Rural | | Urban | |
|---|--------------|--------------|--------------|--------------|
| | 1983 | 1987-88 | 1983 | 1987-88 |
| Women required to spend most of their time in domestic work: | | | | |
| No other household (hh) member to do domestic duties | 47.2 | 46.1 | 54.1 | 52.7 |
| Cannot afford hired help | 9.4 | 6.7 | 8.3 | 6.2 |
| Social/religious constraint | 15.2 | 18.2 | 13.5 | 16.5 |
| Others | 16.0 | 17.6 | 14.2 | 15.7 |
| Sub-total | 87.8 | 88.5 | 90.1 | 91.2 |
| Women not required to spend most of their time in domestic work: | | | | |
| Non-availability of work | 4.1 | 3.2 | 3.5 | 2.4 |
| By preference | 2.8 | 3.5 | 2.8 | 2.9 |
| Others | 5.3 | 4.7 | 3.6 | 3.5 |
| Sub-total | 12.2 | 11.5 | 9.9 | 8.8 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 |

Reasons for spending Most of the Person Days in Domestic Work Throughout the Year, 1977-78.

| | 1977-78 | Pressing need for domestic work | Non-availability of work | Others | Total |
|-------------|---------|---------------------------------|--------------------------|--------|-------|
| Rural Women | | 92.4 | 2.9 | 4.7 | 100.0 |
| Urban Women | | 93.0 | 2.8 | 4.2 | 100.0 |

Table 12.2: (India) Percentage of Females Aged 15+ Usually Engaged in Domestic Duties in Terms of Usual Principal Activity Reporting Availability for Work in the Household Premises by Type of Work, NSS Data for 1977-78 to 1987-88

| Type of work | Rural | | | Urban | | |
|--|----------|-------|---------|----------|-------|---------|
| | 1977-78* | 1983* | 1987-88 | 1977-78* | 1983* | 1987-88 |
| Dairy | 8.7 | 8.0 | 9.5 | 3.8 | 3.3 | 3.2 |
| Poultry | 3.4 | 2.7 | 3.0 | 2.2 | 1.7 | 2.0 |
| Other Animal Husbandry | 2.0 | 2.7 | 3.4 | 0.5 | 0.7 | 0.9 |
| Spinning and Weaving | 4.4 | 4.1 | 4.4 | 3.0 | 3.3 | 3.3 |
| Manufacturing of Wood and Cane Products | 0.2 | 0.2 | 0.3 | 0.3 | 0.4 | 0.3 |
| Tailoring | 3.8 | 4.9 | 6.1 | 7.9 | 8.8 | 11.7 |
| Manufacturing of Leather Goods and Repairing | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 |
| Others | 1.0 | 1.8 | 2.4 | 2.0 | 3.5 | 4.0 |
| All | 23.6 | 24.5 | 29.3 | 19.8 | 21.9 | 25.6 |

* Data relate to females aged 5 years and above.

Table 12.3: (India) Percentage Distribution of Females Aged 5+ Usually Engaged in Domestic Duties in Terms of Usual Principal Activity and Available for Work in the Household Premises by Type of Assistance Required, NSS Data for 1977-78 to 1987-88

| Type of Assistance Required | Rural | | | Urban | | |
|------------------------------------|---------|-------|----------|---------|-------|----------|
| | 1977-78 | 1983 | 1987-88* | 1977-78 | 1983 | 1987-88* |
| No Assistance | 2.7 | 3.8 | 2.1 | 5.3 | 5.2 | 3.4 |
| Initial Finance on Easy Terms | 64.8 | 53.4 | 53.6 | 53.4 | 48.7 | 49.6 |
| Working Finance Facilities | 7.3 | 17.7 | 22.2 | 7.6 | 14.0 | 17.5 |
| Easy Availability of Raw Materials | 4.7 | 4.4 | 4.6 | 5.4 | 5.0 | 4.7 |
| Assured Market | 2.3 | 2.5 | 1.7 | 4.3 | 3.3 | 3.7 |
| Training | 16.7 | 13.0 | 10.5 | 20.6 | 14.8 | 12.8 |
| Accommodation | 0.7 | 0.7 | 0.4 | 2.1 | 1.7 | 1.2 |
| Others | 0.8 | 4.5 | 4.9 | 1.3 | 7.3 | 7.1 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

* Data relate to females aged 15 and above.

13 Possible Upward Adjustment of the Female WPRs Estimated by the NSS and the Tasks Ahead

Over the past two decades, there has been a growing concern, particularly among scholars and institutions involved in women's studies, that the participation of women in economic activities is under-reported by the statistical data collection agencies. As shown earlier, the charge is much less valid with respect to the NSS than the Censuses. At the same time, no data collection effort can really rise above or fully counter and correct the response errors that result in under-reporting of economic activity or work requiring only a small or marginal amount of time. An attempt in a recent survey to record the time use by children during the three days preceding the day of interview inspires little hope that we can collect useful data on this issue for a large sample.⁴¹ Perhaps, the investigator needs to be not a casual visitor from a town or an educated outsider seen as a government servant but an unobtrusive local resident or acquaintance.

(a) NSS Data on Activities of Household Workers

The NSS data permit some alternative estimates of the level of female participation in economic activity. Beginning with the 32nd Round survey conducted in 1977-78, the NSS has asked all women who reported household work as their principal activity whether they undertake certain specified activities in the course of their household work. The number of specified activities has grown from 13 in 1977-78 to 19 in 1987-88. Results are summarised in Table 13.1.

The specified activities primarily focus on processing of primary products for own consumption and free collection of certain goods such as fuel, cow-dung or water. Some of these women are already classified as workers in terms of their subsidiary activity. Other women who were not classified as subsidiary workers, but who processed primary products or collected the agricultural produce, etc., formed 17.1 per cent of the total in rural areas and 6.3 per cent in urban areas in 1987-88. If they had been grouped with workers, the WPRs for females would rise to 49.4 per cent in rural areas and 21.5 per cent in urban areas.

Feminists argue that a more comprehensive count of women workers would enhance the recognition of their contribution to the Indian economy. One cannot but accept the need for all efforts to improve measurement of the phenomenon under study. Yet, the enumeration of the labour force in a large scale activity such as the decennial Census is essentially rough and gross. It is high time that we relieve the Census enumerators of the heavy burden of collecting data on economic activities and instead rely on sample surveys for the purpose. The proposed decentralised planning down to the district level and below will necessitate the repetition of sample surveys at sub-state levels. The relevant techniques are not difficult to follow; but gathering reliable data is a costly exercise.

The increasing sophistication and high quality of data processing equipment now available throughout India should help to shorten the time-lag between the collection of data and their analysis or release. Unfortunately, India is no longer a leader in the developing world in the field of statistics. The statistical system has lost its clan and

⁴¹ Visaria, Pravin, and Paul Jacob. 1995. *Child Labour in India: Results of a Methodological Survey in Surendranagar and Surat Districts of Gujarat State*, Gujarat Institute of Development Research and International Labour Office.

drive in most of the country; its rejuvenation will require immense efforts and a break with several dysfunctional rules and regulations.

However, one wonders about the intrinsic value of the exercises to raise the female WPRs to a level comparable to that of male WPRs. Women who work have to shoulder the burden of multiple roles with very long hours of activity, often under most exacting conditions. No serious student of Indian reality can fail to note the tremendous drudgery of household work performed by women, particularly in rural areas. Their burden can be lightened only through the usually slow process of social engineering and economic development (or a rise in income levels), which needs continuous and intensive effort.

(b) The Tasks Ahead

The proposed social engineering must include a firm effort to eliminate all forms of discrimination against women. Since the government cannot really intervene at the intra-household level, it must operate essentially through the educational channels, including the mass media. It must also mobilise the Non-Governmental Organisations (NGOs) to fight against discrimination, although even the NGOs are hard put to find effective ways of modifying or attacking centuries-old practices and prejudices.

It is not easy to appreciate the true dimensions of the task. The discrimination in varied forms (presumably not by mothers) against their daughters leads to the higher mortality of young girls after they are weaned from breast-milk. It takes the form of both discrimination in feeding and nutritional intake and in the use of health care facilities in the event of illness. The sex-differential in mortality rate during ages 1-4 contributes more to the deficit of females in the Indian population than the maternal mortality rate (which has declined but is still said to be around 5 per 1000 livebirths). According to the life tables for the period 1988-1992, the incidence of discrimination is much higher in rural areas than in urban India; the female disadvantage in the expectation of life at birth has now disappeared in urban India but persists in rural India.⁴² Yet, the female age specific death rates are higher than the male over the age span 1 to 35 in rural India and ages 1 to 25 in urban India.

The international experience indicates that the females are biologically sturdier than males. It is only social factors that offset the advantage and convert the biological strength into a weakness. This anomaly has to be ended through an adequate recognition of the fact that the battle for human rights has to be fought in virtually every home to ensure equality between the sexes. Universal literacy with unbiased text books would probably help to alter the mindset of the people. The Indian elite must set the examples for the others to emulate.

According to a recent report on a Gallup Poll, the bias against women may be on the wane in India (India Abroad News Service, New York).⁴³ About 65 per cent of both male and female respondents in India thought that women had equal job opportunities in the country. About 50 per cent of the men and 64 per cent of the women among the

⁴² Office of the Registrar General, India, 1995. Occasional Paper no. 4. SRS-Based Abridged Life Tables, 1988-1992. The life tables based on the Sample Registration System indicated a lower life expectancy at birth (e_0) for females than for males in rural India during 1970-1985. During 1986-1990, rural women have a slightly higher e_0 than men. Urban women, on the other hand, had a clearly higher e_0 than men beginning with 1976-1980. See: Census of India, Occasional Paper No. 4, 1993. SRS Based Abridged Life Tables 1986-1990. New Delhi.

⁴³ India Abroad News Service, New York. A report dated March 30, 1996, Indian Express (Ahmedabad), March 31, 1996, p. 11.

respondents preferred a family where both husband and wife took up employment. Also, 72 per cent of the respondents believed that the position of women had "improved in the last five years". Unfortunately, the press report gives no information whatsoever on the size, location and procedures of selection of the sample. Yet, it seems a surprising finding that the women themselves do not feel discriminated against. A specific question, "If you were born again, would you want to be a man or a women?", elicited interesting responses. Only one-third of the women respondents would like to be born as men, whereas, 38 per cent would like to be born as women; for the remaining 21 per cent, "it would not matter". One suspects that there must be few widows or other disadvantaged groups of women in the Gallup Poll sample.

Certain groups of Indian women, which report high WPRs, seem to be specially disadvantaged, both socially and economically. A high proportion of widows and divorced and separated women are in this category. They often suffer and are exploited in various ways. The Indian traditions relating to the distribution of property on the death of the head of a family do not ensure fairness or equal rights for children of both sexes or an adequate means of livelihood for the surviving widows. Likewise, there is no system of a proper alimony to enable a divorced or separated woman to live without any hardship. The provisions of the Hindu Succession Act passed in 1956 continue to be ignored with impunity. Many widows, divorced and separated women face an intolerable burden of hardship and insecurity leading to numerous problems.

The living conditions of a large proportion of currently married women living with their spouses and children are also highly unsatisfactory. Most girls have little role in selecting a spouse and only a small proportion of them (just about 1 or 2 per 1000) remain unmarried beyond age 30. (A large majority of the old spinsters probably suffer from a physical or mental disability and are a select group).⁴⁴ It is imperative that the Indian women acquire the autonomy necessary for an adequate clear role in decision-making relating to their own life and their families.⁴⁵

Despite the improvement in the conditions of Indian women during the freedom struggle and after Independence, it is virtually impossible in India to enforce many of the legal enactments that seek to redress the intra-household inequalities, which have largely been internalised. During the past few years, the women's movement throughout the world has begun to emphasize the need for an "empowerment of women". The precise modalities of the proposed empowerment are difficult to specify. Apart from education, the role of the state in intra-household interactions becomes explicit more in the event of extremely deviant behaviour. If one can repose faith in the ancient adage that "knowledge is power", the promotion of literacy and education among young girls and women must receive highest priority. Albeit, the illiterates are not ignorant or stupid; they make good judgments about their self-interest, as well as, about the interests of their group. Extensive dissemination of information about their current dis-

⁴⁴ Office of the Registrar General, India 1996. Sample Registration System: Fertility and Mortality Indicators, 1993. New Delhi Table 2, p.92. The hypothesis about the high prevalence of disabilities among the older never-married persons aged 30 and above remains to be confirmed; but it is based on international experience indicating high mortality rates among such persons.

⁴⁵ We need extensive research on the question of the level of autonomy of women and its determinants. For a limited effort, see: Leela Visaria, 1996. "Regional Variations in Female Autonomy and Fertility and Contraception in India", Jeffery, Roger and Alaka M. Basu (Eds.) *Girls' Schooling, Women's Autonomy and Fertility Change in South Asia*, Sage Publications, New Delhi, pp. 235-268.

advantages and the rights being denied to them despite the constitutional and legal provisions can be expected to initiate and/or strengthen the process of change in the living conditions of both working and non-working women and lead to a more egalitarian India.

The process of economic development in India in the years ahead is likely to be accompanied by a slow growth of regular employment or the opportunities for working as salaried workers. The share of self-employment in the prospective work opportunities is unlikely to decline and may, in fact, rise. Also, the employment growth is likely to be higher in the services sector in which women seem to find some comparative advantage.

As a result, the female WPRs are unlikely to decline even with the expected rise in the level of urbanisation in the country to about 45-50 per cent by 2025-2031. The challenge, however, will be to eliminate all forms of discrimination and to ensure that women in all parts of the country are educated up to at least the middle school and get equal pay for equal work; and that their living and working conditions improve with a better social status and greater autonomy in decision-making.

Table 13.1: Number of Women Participating in Specified Activities per 1000 Females Usually Engaged in Domestic Duties in Terms of Usual Principal Activity, NSS Data for 1977-78 to 1987-88

| Activities | 1977-78 | 1983 | Subsidiary Workers [#] | 1987-88 Others | All |
|---|---------|------|---------------------------------|----------------|-----|
| Rural India | | | | | |
| 1. Maintenance of kitchen garden etc. | 117 | 144 | 217 | 149 | 163 |
| 2. Work in hh poultry | | 145 | | | |
| 3. Work in hh animal husbandry | 275 | 318 | 536 | 279 | 330 |
| 4. Any of items 1-3 | 316 | 437 | 593 | 336 | 387 |
| 5. Free collection of fish, small games etc. | 155 | 241 | 321 | 184 | 212 |
| 6. Free collection of firewood, cattle feed etc. | 357 | 435 | 593 | 359 | 405 |
| 7. Any of items 5-6 | 371 | NA | 633 | 384 | 434 |
| 8. Any of items 1-3, 5-6 | NA | 651 | 841 | 536 | 597 |
| 9. Husking paddy (Own Produce) | NA | 276 | 203 | 121 | 178 |
| 10. Grinding of foodgrains " " | NA | 388 | 185 | 172 | 175 |
| 11. Preparation of gur " " | NA | 22 | 12 | 9 | 8 |
| 12. Preservation of meat, fish etc. " " | NA | NA | 8 | 7 | 7 |
| 13. Making baskets etc. " " | NA | NA | 30 | 24 | 25 |
| 14. Any of items 9-13 | NA | NA | 289 | 248 | 256 |
| 15. Any of items 1-3, 5-6, 9-13 | NA | NA | 869 | 614 | 665 |
| 16. Husking of paddy (Acquired) " " | NA | * | 71 | 73 | 72 |
| 17. Grinding of foodgrains " " | NA | * | 128 | 103 | 108 |
| 18. Preparation of gur " " | NA | * | 45 | 71 | 66 |
| 19. Preservation of meat, fish etc. " " | NA | NA | 49 | 71 | 67 |
| 20. Making baskets " " | NA | NA | 49 | 72 | 67 |
| 21. Preparation of cow dung cakes | NA | 499 | 596 | 500 | 519 |
| 22. Sewing, tailoring etc. | 94 | 174 | 206 | 192 | 195 |
| 23. Tutoring of own children | 12 | 34 | 32 | 37 | 36 |
| 24. Bringing water from outside hh premises | NA | 630 | 714 | 582 | 608 |
| 25. Bringing water from outside village | 34 | 33 | 44 | 27 | 30 |
| Number of women engaged in hh duties per 1000 women | 346 | 362 | 69 | 279 | 348 |

Table 13.1 (contd.)

| Activities | 1977-78 | 1983 | Subsidiary Workers [@] | 1987-88 Others | All |
|---|---------|------|---------------------------------|-------------------|-----|
| Urban India | | | | | |
| 1. Maintenance of kitchen garden etc. | 28 | 46 | 92 | 46 | 49 |
| 2. Work in hh poultry | - | 39 | - | - | - |
| 3. Work in hh animal husbandry | | | | | |
| 4. Any of items 1-3 | 66 | 60 | 308 | 49 | 67 |
| 5. Free collection of fish, small games etc. | 84 | 117 | 358 | 85 | 103 |
| 6. Free collection of firewood, cattle feed etc. | 17 | 31 | 51 | 17 | 19 |
| 7. Any of items 5-6 | 66 | 80 | 226 | 61 | 72 |
| 8. Any of items 1-3, 5-6 | 68 | NA | 238 | 65 | 76 |
| 9. Husking paddy (Own Produce) | NA | 172 | 480 | 134 | 157 |
| 10. Grinding of foodgrains | NA | 23 | 25 | 11 | 12 |
| 11. Preparation of gur | NA | 135 | 41 | 26 | 27 |
| 12. Preservation of meat, fish etc. | NA | 2 | - | - | - |
| 13. Making baskets etc. | NA | NA | 4 | 4 | 4 |
| 14. Any of items 9-13 | NA | NA | 12 | 3 | 4 |
| 15. Any of items 1-3, 5-6, 9-13 | NA | NA | 68 | 32 | 35 |
| 16. Husking of paddy (Acquired) | NA | NA | 497 | 154 | 177 |
| 17. Grinding of foodgrains | NA | * | 44 | 44 | 44 |
| 18. Preparation of gur | NA | * | 140 | 107 | 110 |
| 19. Preservation of meat, fish etc. | NA | * | 34 | 39 | 39 |
| 20. Making baskets | NA | NA | 42 | 39 | 39 |
| 21. Preparation of cow dung cakes | NA | NA | 38 | 43 | 43 |
| 22. Sewing, tailoring etc. | NA | 91 | 294 | 80 | 94 |
| 23. Tutoring of own children | 141 | 208 | 276 | 249 | 251 |
| 24. Bringing water from outside hh premises | 46 | 100 | 82 | 110 | 108 |
| 25. Bringing water from outside village | NA | 348 | 467 | 309 | 320 |
| | - | - | - | - | - |
| Number of women engaged in hh duties per 1000 women | 415 | 442 | 30 | 410 | 440 |

* Included in items 9-11 respectively. @ These persons were already counted as subsidiary workers.

Appendix A.1

Table A.1: Worker-Population Ratios for Population Aged 15 Years and above by General Education, NSS 43rd Round (1987-88)

| State | Not Literate | Literate Upto Primary | Middle | Secon- -dary | Grad- uate and Above | All |
|----------------------|-----------------|-----------------------------|--------|-----------------|----------------------------|------|
| Rural Areas: Females | | | | | | |
| All India | 52.6 | 39.1 | 28.6 | 26.2 | 30.7 | 48.5 |
| Andhra Pradesh | 71.2 | 49.4 | 33.6 | 24.6 | 43.5 | 66.6 |
| Assam | 25.4 | 22.7 | 21.2 | 22.3 | 19.9 | 24.3 |
| Bihar | 33.7 | 13.8 | 11.2 | 10.7 | 27.6 | 31.2 |
| Gujarat | 61.3 | 48.6 | 29.6 | 36.3 | 24.8 | 56.0 |
| Haryana | 50.6 | 33.3 | 18.4 | 38.8 | 4.5 | 46.7 |
| Himachal Pradesh | 74.2 | 70.6 | 55.8 | 54.7 | 25.7 | 71.4 |
| Jammu & Kashmir | 57.8 | 44.7 | 28.1 | 31.3 | 43.9 | 53.7 |
| Karnataka | 60.6 | 46.3 | 37.3 | 26.8 | 28.0 | 55.8 |
| Kerala | 45.9 | 46.2 | 31.7 | 28.3 | 45.3 | 40.4 |
| Madhya Pradesh | 67.7 | 47.4 | 28.5 | 29.8 | 21.2 | 64.7 |
| Maharashtra | 72.7 | 63.3 | 46.8 | 32.3 | 26.7 | 67.8 |
| Orissa | 47.6 | 18.2 | 12.5 | 14.3 | 23.0 | 40.1 |
| Punjab | 51.7 | 42.2 | 36.1 | 24.3 | 22.3 | 46.0 |
| Rajasthan | 69.8 | 58.7 | 42.7 | 50.1 | 55.8 | 68.7 |
| Tamil Nadu | 69.2 | 57.9 | 42.9 | 34.1 | 29.2 | 63.8 |
| Uttar Pradesh | 37.5 | 19.0 | 14.0 | 16.9 | 15.5 | 34.6 |
| West Bengal | 32.0 | 19.2 | 17.2 | 18.9 | 48.3 | 28.2 |
| Delhi | 10.0 | - | - | 2.1 | 77.8 | 8.3 |
| Rural Areas: Males | | | | | | |
| All India | 91.1 | 89.0 | 73.9 | 72.9 | 82.7 | 86.3 |
| Andhra Pradesh | 91.6 | 92.9 | 75.8 | 73.4 | 80.6 | 89.0 |
| Assam | 89.3 | 89.8 | 67.0 | 59.9 | 77.7 | 82.1 |
| Bihar | 91.7 | 88.1 | 74.9 | 71.6 | 78.7 | 86.4 |
| Gujarat | 88.1 | 89.3 | 76.5 | 80.1 | 85.0 | 86.2 |
| Haryana | 82.6 | 81.8 | 65.6 | 79.8 | 77.0 | 79.6 |
| Himachal Pradesh | 90.7 | 86.9 | 73.4 | 83.5 | 81.5 | 86.2 |
| Jammu & Kashmir | 92.3 | 83.4 | 73.1 | 80.3 | 83.9 | 86.2 |
| Karnataka | 90.9 | 92.2 | 74.0 | 73.8 | 87.5 | 87.3 |
| Kerala | 76.9 | 85.1 | 72.3 | 57.2 | 75.3 | 76.4 |
| Madhya Pradesh | 93.2 | 90.2 | 70.6 | 83.6 | 89.8 | 89.8 |
| Maharashtra | 91.1 | 90.3 | 73.2 | 70.4 | 88.2 | 85.5 |
| Orissa | 91.6 | 91.5 | 73.0 | 58.9 | 61.8 | 86.6 |
| Punjab | 88.4 | 86.4 | 74.9 | 78.6 | 92.8 | 84.7 |
| Rajasthan | 90.5 | 83.7 | 72.4 | 75.2 | 86.3 | 86.1 |
| Tamil Nadu | 90.1 | 92.0 | 78.1 | 70.6 | 74.1 | 87.2 |
| Uttar Pradesh | 91.8 | 88.3 | 75.9 | 76.2 | 85.9 | 87.1 |
| West Bengal | 93.1 | 87.5 | 75.5 | 76.4 | 85.0 | 87.2 |
| Delhi | 75.0 | 83.0 | 61.7 | 67.8 | 82.1 | 73.3 |

Table A.1 (contd.)

| State | Not Literate | Literate upto Primary | Middle | Secondary | Graduate and Above | All |
|----------------------|--------------|-----------------------|--------|-----------|--------------------|------|
| Urban Areas: Females | | | | | | |
| All India | 29.5 | 17.9 | 12.0 | 15.6 | 31.7 | 22.5 |
| Andhra Pradesh | 42.8 | 21.5 | 12.8 | 15.2 | 35.9 | 31.2 |
| Assam | 10.2 | 7.4 | 12.0 | 8.8 | 39.0 | 11.0 |
| Bihar | 18.5 | 6.5 | 3.0 | 5.0 | 19.3 | 13.3 |
| Gujarat | 21.3 | 14.2 | 9.0 | 10.5 | 27.9 | 16.5 |
| Haryana | 23.0 | 7.4 | 9.4 | 19.3 | 25.6 | 17.9 |
| Himachal Pradesh | 28.9 | 19.2 | 19.9 | 16.3 | 36.8 | 23.5 |
| Jammu & Kashmir | 21.3 | 16.5 | 13.8 | 18.3 | 35.0 | 20.6 |
| Karnataka | 38.4 | 27.6 | 16.4 | 16.4 | 31.3 | 28.7 |
| Kerala | 30.3 | 24.1 | 22.4 | 25.3 | 51.8 | 26.7 |
| Madhya Pradesh | 31.0 | 15.2 | 5.8 | 14.3 | 29.6 | 22.1 |
| Maharashtra | 31.9 | 18.5 | 15.3 | 17.8 | 38.6 | 23.8 |
| Orissa | 28.1 | 12.9 | 5.4 | 11.6 | 32.8 | 18.8 |
| Punjab | 26.4 | 13.7 | 8.0 | 15.0 | 21.3 | 18.7 |
| Rajasthan | 38.2 | 20.2 | 7.5 | 13.1 | 28.2 | 28.9 |
| Tamil Nadu | 41.4 | 29.4 | 17.1 | 21.5 | 37.8 | 31.0 |
| Uttar Pradesh | 19.3 | 7.0 | 4.9 | 10.6 | 23.8 | 15.2 |
| West Bengal | 22.3 | 12.4 | 10.8 | 15.0 | 29.1 | 17.2 |
| Delhi | 11.6 | 4.7 | 4.2 | 9.2 | 36.4 | 13.0 |
| Rural Areas: Males | | | | | | |
| All India | 86.2 | 83.9 | 68.2 | 66.6 | 81.2 | 76.9 |
| Andhra Pradesh | 89.3 | 86.4 | 68.8 | 63.4 | 81.4 | 77.9 |
| Assam | 86.6 | 86.8 | 70.7 | 63.9 | 83.8 | 75.6 |
| Bihar | 84.7 | 85.2 | 70.7 | 56.3 | 69.3 | 73.6 |
| Gujarat | 82.6 | 79.6 | 69.3 | 75.0 | 87.3 | 78.3 |
| Haryana | 88.2 | 85.5 | 74.6 | 79.6 | 88.1 | 83.0 |
| Himachal Pradesh | 88.3 | 79.5 | 54.1 | 59.9 | 82.5 | 70.0 |
| Jammu & Kashmir | 90.3 | 84.9 | 64.4 | 67.5 | 76.6 | 78.2 |
| Karnataka | 87.3 | 88.3 | 65.8 | 61.2 | 83.2 | 76.0 |
| Kerala | 71.9 | 82.4 | 73.2 | 58.5 | 83.7 | 73.8 |
| Madhya Pradesh | 87.2 | 81.2 | 62.4 | 66.1 | 80.2 | 75.4 |
| Maharashtra | 81.3 | 79.0 | 64.0 | 68.1 | 78.1 | 73.4 |
| Orissa | 86.4 | 86.8 | 74.7 | 62.4 | 78.6 | 78.0 |
| Punjab | 88.4 | 83.8 | 73.0 | 76.6 | 85.3 | 80.8 |
| Rajasthan | 86.6 | 82.5 | 67.9 | 63.5 | 80.5 | 76.3 |
| Tamil Nadu | 83.5 | 86.9 | 75.0 | 71.4 | 85.2 | 80.2 |
| Uttar Pradesh | 88.9 | 87.0 | 65.4 | 65.6 | 79.1 | 78.8 |
| West Bengal | 84.6 | 84.6 | 66.4 | 63.5 | 80.3 | 76.2 |
| Delhi | 86.9 | 80.9 | 64.9 | 70.9 | 89.0 | 78.0 |

Table A.2 : Worker-Population Ratios by Social Group, NSS 43rd Round (1987-88)

| State | Females | | | | Males | | | |
|------------------|------------|------|--------|------|-------|------|--------|------|
| | ST | SC | Others | All | ST | SC | Others | All |
| | Rural Area | | | | | | | |
| All India | 45.4 | 35.8 | 29.4 | 32.3 | 56.7 | 53.8 | 53.5 | 53.9 |
| Andhra Pradesh | 54.5 | 49.9 | 45.7 | 47.0 | 60.9 | 58.6 | 59.6 | 59.5 |
| Assam | 15.5 | 17.4 | 16.2 | 16.2 | 50.9 | 53.8 | 51.3 | 51.4 |
| Bihar | 38.1 | 29.1 | 14.4 | 19.3 | 56.0 | 50.9 | 48.9 | 50.0 |
| Gujarat | 53.0 | 39.4 | 33.7 | 38.1 | 59.0 | 53.4 | 55.6 | 55.9 |
| Haryana | 46.8 | 31.7 | 28.7 | 29.7 | 53.1 | 47.1 | 47.5 | 47.5 |
| Himachal Pradesh | 44.4 | 50.8 | 47.2 | 48.0 | 58.3 | 56.3 | 52.7 | 53.9 |
| Jammu & Kashmir | 30.5 | 31.1 | 35.2 | 34.7 | 53.7 | 50.0 | 53.9 | 53.5 |
| Karnataka | 40.8 | 44.5 | 36.0 | 37.7 | 55.3 | 55.2 | 57.2 | 56.8 |
| Kerala | 37.6 | 39.5 | 26.9 | 28.6 | 58.2 | 50.2 | 50.5 | 50.6 |
| Madhya Pradesh | 48.7 | 43.3 | 36.0 | 41.0 | 56.8 | 54.9 | 53.4 | 54.6 |
| Maharashtra | 49.0 | 49.0 | 45.1 | 46.2 | 54.4 | 54.9 | 54.5 | 54.6 |
| Orissa | 48.5 | 32.2 | 18.6 | 27.6 | 62.2 | 56.8 | 54.5 | 56.6 |
| Punjab | 19.8 | 33.3 | 31.0 | 31.7 | 48.9 | 54.3 | 57.0 | 56.0 |
| Rajasthan | 56.4 | 42.5 | 42.9 | 45.0 | 56.0 | 50.4 | 50.3 | 51.2 |
| Tamil Nadu | 51.7 | 49.7 | 44.9 | 46.1 | 59.0 | 57.0 | 59.3 | 58.7 |
| Uttar Pradesh | 29.0 | 29.1 | 19.5 | 21.9 | 53.2 | 52.1 | 51.7 | 51.8 |
| West Bengal | 35.8 | 21.8 | 16.6 | 19.6 | 56.2 | 55.7 | 54.5 | 55.0 |
| Delhi | - | - | 4.0 | 5.1 | - | - | 41.0 | 42.6 |
| | Urban Area | | | | | | | |
| All India | 22.5 | 21.3 | 14.0 | 15.2 | 50.4 | 49.2 | 50.9 | 50.6 |
| Andhra Pradesh | 31.5 | 27.8 | 20.5 | 21.5 | 49.1 | 46.2 | 50.9 | 50.3 |
| Assam | 11.0 | 8.7 | 8.2 | 8.4 | 43.1 | 51.3 | 51.6 | 51.2 |
| Bihar | 23.2 | 16.9 | 5.6 | 7.9 | 51.2 | 47.8 | 44.0 | 44.8 |
| Gujarat | 24.0 | 15.8 | 9.6 | 11.2 | 53.6 | 48.1 | 51.3 | 51.0 |
| Haryana | - | 16.7 | 11.5 | 12.3 | - | 52.3 | 56.3 | 55.3 |
| Himachal Pradesh | - | 14.2 | 15.6 | 15.6 | - | 38.0 | 50.1 | 46.6 |
| Jammu & Kashmir | - | 15.5 | 14.4 | 14.5 | - | 48.3 | 53.4 | 53.1 |
| Karnataka | 26.6 | 24.9 | 18.8 | 19.6 | 49.1 | 41.9 | 50.3 | 49.4 |
| Kerala | 16.8 | 29.9 | 19.1 | 19.8 | 58.1 | 55.3 | 52.7 | 53.0 |
| Madhya Pradesh | 21.0 | 22.7 | 12.6 | 14.4 | 50.2 | 48.0 | 47.8 | 48.0 |
| Maharashtra | 25.4 | 20.8 | 14.7 | 15.9 | 50.3 | 45.5 | 50.0 | 49.6 |
| Orissa | 20.9 | 19.6 | 10.3 | 12.5 | 48.0 | 47.8 | 49.6 | 49.3 |
| Punjab | 22.4 | 22.4 | 9.6 | 12.3 | 63.6 | 53.8 | 53.8 | 54.0 |
| Rajasthan | 24.7 | 28.7 | 16.8 | 19.1 | 44.6 | 45.8 | 47.5 | 47.1 |
| Tamil Nadu | 26.1 | 30.8 | 21.6 | 22.7 | 56.7 | 52.9 | 56.2 | 55.8 |
| Uttar Pradesh | 9.4 | 17.3 | 8.4 | 9.4 | 49.5 | 51.7 | 48.5 | 48.9 |
| West Bengal | 18.3 | 14.7 | 12.0 | 12.5 | 54.8 | 52.5 | 54.1 | 53.9 |
| Delhi | 3.0 | 11.2 | 8.7 | 8.0 | 49.7 | 52.5 | 54.9 | 54.4 |

Table A.3: Worker-Population Ratio (All Ages) by Monthly Per Capita Expenditure, NSS 43rd Round (1987-88)

| State | <65 | 65-80 | 80-95 | 95-110 | 110-125 | 125-140 | 140-160 | 160-180 | 180-215 | 215-280 | 280-370 | >370 | All |
|----------------------|------|-------|-------|--------|---------|---------|---------|---------|---------|---------|---------|------|------|
| Rural Areas: Females | | | | | | | | | | | | | |
| All India | 33.5 | 34.0 | 32.8 | 33.4 | 32.5 | 31.6 | 31.9 | 31.4 | 32.1 | 31.1 | 31.5 | 31.5 | 32.3 |
| Andhra Pradesh | 45.9 | 44.9 | 46.3 | 49.7 | 47.3 | 49.5 | 50.2 | 45.6 | 48.1 | 45.0 | 42.2 | 41.8 | 47.0 |
| Assam | 17.0 | 21.6 | 21.4 | 19.3 | 16.0 | 13.7 | 14.0 | 12.4 | 16.2 | 13.7 | 15.2 | 18.4 | 16.2 |
| Bihar | 24.0 | 20.1 | 21.3 | 21.5 | 20.5 | 15.5 | 17.7 | 17.9 | 15.8 | 17.3 | 16.8 | 11.6 | 19.3 |
| Gujarat | 38.7 | 37.7 | 39.0 | 44.1 | 37.5 | 40.5 | 38.9 | 41.1 | 38.1 | 33.3 | 26.2 | 33.3 | 38.1 |
| Haryana | 33.7 | 15.6 | 22.3 | 29.5 | 24.4 | 29.1 | 28.5 | 28.0 | 31.9 | 34.8 | 22.6 | 37.0 | 29.7 |
| Himachal Pradesh | 52.8 | 45.1 | 43.4 | 42.4 | 42.6 | 43.9 | 46.6 | 46.2 | 52.7 | 49.7 | 52.4 | 52.9 | 48.0 |
| Jammu & Kashmir | 27.9 | 38.7 | 36.2 | 36.1 | 37.3 | 35.4 | 37.8 | 35.7 | 33.4 | 32.9 | 30.1 | 29.2 | 34.7 |
| Karnataka | 37.6 | 35.0 | 36.2 | 36.8 | 38.4 | 41.9 | 40.0 | 36.4 | 39.3 | 38.9 | 34.8 | 30.6 | 37.7 |
| Kerala | 28.3 | 23.4 | 20.7 | 24.3 | 27.4 | 26.1 | 28.3 | 28.8 | 28.3 | 30.3 | 34.7 | 34.3 | 28.6 |
| Madhya Pradesh | 41.9 | 43.1 | 43.3 | 44.4 | 40.8 | 40.0 | 39.4 | 41.0 | 35.4 | 37.5 | 36.6 | 36.5 | 41.0 |
| Maharashtra | 40.7 | 44.4 | 48.6 | 47.6 | 48.6 | 49.7 | 46.9 | 46.4 | 47.4 | 41.1 | 41.0 | 38.8 | 46.2 |
| Orissa | 33.1 | 35.3 | 28.6 | 32.9 | 27.0 | 22.4 | 23.2 | 20.0 | 21.3 | 17.9 | 19.7 | 21.7 | 27.6 |
| Punjab | 19.8 | 20.7 | 24.1 | 40.1 | 30.3 | 28.4 | 28.2 | 29.2 | 35.0 | 31.3 | 35.8 | 33.9 | 31.7 |
| Rajasthan | 49.3 | 43.0 | 39.4 | 44.1 | 46.5 | 41.9 | 41.6 | 46.0 | 47.0 | 43.1 | 52.9 | 48.6 | 45.0 |
| Tamil Nadu | 38.4 | 46.3 | 44.5 | 48.8 | 46.1 | 49.8 | 47.2 | 49.2 | 49.9 | 44.6 | 46.5 | 40.3 | 46.1 |
| Uttar Pradesh | 24.0 | 25.6 | 24.0 | 22.7 | 22.5 | 22.2 | 21.0 | 19.6 | 18.4 | 21.2 | 18.0 | 17.0 | 21.9 |
| West Bengal | 20.2 | 22.1 | 22.5 | 20.1 | 22.8 | 19.0 | 19.6 | 20.4 | 18.1 | 13.0 | 14.4 | 13.4 | 19.6 |
| Delhi | - | - | - | - | 31.8 | - | 6.0 | 16.7 | 7.5 | - | 2.4 | 7.3 | 5.1 |

Table A.3 (contd.)

| State | < 65 | 65-80 | 80-95 | 95-110 | 110-125 | 125-140 | 140-160 | 160-180 | 180-215 | 215-280 | 280-370 | >370 | All |
|--------------------|------|-------|-------|--------|---------|---------|---------|---------|---------|---------|---------|------|------|
| Rural Areas: Males | | | | | | | | | | | | | |
| All India | 48.0 | 48.0 | 50.2 | 52.4 | 53.1 | 53.8 | 55.2 | 56.0 | 56.7 | 57.4 | 60.1 | 61.7 | 53.9 |
| Andhra Pradesh | 51.7 | 52.6 | 55.9 | 56.4 | 58.3 | 56.8 | 63.3 | 61.7 | 65.5 | 65.0 | 65.5 | 65.5 | 59.5 |
| Assam | 45.8 | 43.8 | 45.4 | 48.6 | 49.7 | 50.8 | 51.8 | 53.7 | 55.4 | 55.0 | 56.8 | 56.3 | 51.4 |
| Bihar | 43.4 | 45.1 | 46.6 | 49.0 | 50.2 | 51.0 | 51.9 | 54.5 | 55.9 | 55.4 | 59.3 | 55.0 | 50.0 |
| Gujarat | 45.8 | 47.9 | 51.7 | 50.4 | 51.5 | 55.1 | 54.8 | 58.3 | 60.8 | 60.8 | 63.8 | 71.3 | 55.9 |
| Haryana | 44.3 | 31.3 | 41.7 | 50.7 | 41.0 | 46.9 | 49.5 | 48.4 | 42.5 | 50.1 | 47.6 | 57.1 | 47.5 |
| Himachal Pradesh | 49.4 | 38.9 | 47.1 | 48.4 | 44.1 | 51.2 | 51.7 | 53.1 | 56.2 | 57.9 | 58.6 | 63.2 | 53.9 |
| Jammu & Kashmir | 54.4 | 40.6 | 52.1 | 51.5 | 50.8 | 54.7 | 53.5 | 54.3 | 52.9 | 54.7 | 54.7 | 58.6 | 53.5 |
| Karnataka | 49.8 | 51.0 | 52.5 | 53.9 | 56.2 | 55.8 | 58.6 | 60.7 | 61.4 | 61.0 | 67.2 | 65.6 | 56.8 |
| Kerala | 37.7 | 35.9 | 38.9 | 44.3 | 45.5 | 45.9 | 50.1 | 53.5 | 51.5 | 55.1 | 59.0 | 60.4 | 50.6 |
| Madhya Pradesh | 50.6 | 49.9 | 52.4 | 56.3 | 56.6 | 54.0 | 57.3 | 51.7 | 56.8 | 57.6 | 61.8 | 63.1 | 54.6 |
| Maharashtra | 49.2 | 50.7 | 50.7 | 53.3 | 53.5 | 53.4 | 56.3 | 59.3 | 56.4 | 56.1 | 62.2 | 62.8 | 54.6 |
| Orissa | 51.3 | 51.8 | 56.0 | 57.9 | 59.0 | 56.7 | 59.2 | 58.4 | 56.8 | 59.1 | 56.1 | 70.1 | 56.6 |
| Punjab | 54.1 | 39.9 | 43.9 | 52.7 | 46.7 | 49.0 | 51.2 | 53.7 | 57.3 | 59.8 | 60.5 | 63.1 | 56.0 |
| Rajasthan | 53.9 | 47.8 | 45.8 | 48.8 | 51.1 | 49.2 | 52.3 | 53.6 | 52.4 | 51.4 | 50.4 | 61.1 | 51.2 |
| Tamil Nadu | 49.6 | 50.9 | 51.6 | 57.9 | 59.9 | 60.5 | 63.2 | 63.8 | 65.7 | 59.8 | 69.4 | 65.8 | 58.7 |
| Uttar Pradesh | 43.4 | 45.2 | 48.9 | 51.2 | 51.6 | 54.3 | 52.7 | 52.6 | 54.0 | 57.3 | 60.6 | 58.3 | 51.8 |
| West Bengal | 50.0 | 46.8 | 51.4 | 51.5 | 53.2 | 57.5 | 55.0 | 59.9 | 58.8 | 58.2 | 63.6 | 62.3 | 55.0 |
| Delhi | 51.5 | - | - | - | 42.1 | 25.0 | 54.3 | 60.0 | 47.5 | 44.9 | 42.3 | 37.2 | 42.6 |

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Table A.3 (contd.)

| State | <90 | 90-110 | 110-135 | 135-160 | 160-185 | 185-215 | 215-255 | 255-310 | 310-385 | 385-520 | 520-700 | >700 | All |
|----------------------|------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------|------|
| Urban Areas: Females | | | | | | | | | | | | | |
| All India | 20.2 | 18.4 | 17.2 | 16.2 | 15.6 | 13.4 | 12.1 | 12.1 | 11.8 | 13.7 | 16.4 | 19.1 | 15.2 |
| Andhra Pradesh | 30.5 | 31.7 | 23.5 | 24.0 | 22.9 | 18.9 | 16.1 | 14.1 | 14.4 | 11.5 | 18.3 | 18.4 | 21.5 |
| Assam | 4.6 | 7.7 | 7.8 | 4.1 | 9.1 | 11.1 | 5.2 | 5.9 | 9.6 | 13.3 | 13.9 | 25.1 | 8.4 |
| Bihar | 12.2 | 5.5 | 10.1 | 8.2 | 7.9 | 6.0 | 5.3 | 6.8 | 4.8 | 4.4 | 5.5 | 11.4 | 7.9 |
| Gujarat | 12.6 | 20.2 | 15.1 | 13.9 | 12.7 | 9.7 | 6.9 | 7.9 | 8.1 | 9.5 | 9.7 | 17.2 | 11.2 |
| Haryana | 4.2 | 16.5 | 8.3 | 12.1 | 12.0 | 13.1 | 9.6 | 14.2 | 13.2 | 13.8 | 14.4 | 20.2 | 12.3 |
| Himachal Pradesh | 18.9 | - | 13.5 | 16.6 | 19.0 | 10.1 | 20.3 | 12.2 | 7.5 | 15.8 | 30.6 | 22.0 | 15.6 |
| Jammu & Kashmir | 22.0 | 8.4 | 13.6 | 12.9 | 14.1 | 16.5 | 14.2 | 12.2 | 12.4 | 16.2 | 18.6 | 20.2 | 14.5 |
| Karnataka | 27.7 | 29.5 | 20.6 | 18.0 | 22.8 | 16.7 | 17.3 | 15.6 | 14.8 | 15.0 | 8.9 | 14.8 | 19.6 |
| Kerala | 16.9 | 19.6 | 16.5 | 14.9 | 20.1 | 17.8 | 19.8 | 20.8 | 20.8 | 23.4 | 29.3 | 32.2 | 19.8 |
| Madhya Pradesh | 24.5 | 17.0 | 17.1 | 17.6 | 11.9 | 12.6 | 11.1 | 10.7 | 8.1 | 12.5 | 13.0 | 15.4 | 14.4 |
| Maharashtra | 22.0 | 21.6 | 19.7 | 16.8 | 15.4 | 13.9 | 13.4 | 11.3 | 12.9 | 14.3 | 21.0 | 17.2 | 15.9 |
| Orissa | 18.4 | 14.6 | 12.8 | 12.0 | 19.1 | 7.2 | 7.9 | 8.7 | 11.9 | 10.2 | 8.6 | 11.5 | 12.5 |
| Punjab | 9.1 | 15.9 | 16.5 | 13.5 | 13.0 | 9.5 | 8.3 | 13.3 | 10.7 | 16.0 | 16.8 | 20.4 | 12.3 |
| Rajasthan | 19.2 | 22.5 | 17.7 | 22.6 | 20.7 | 20.5 | 16.7 | 14.4 | 17.8 | 15.0 | 19.7 | 21.6 | 19.1 |
| Tamil Nadu | 28.8 | 27.3 | 29.0 | 25.9 | 22.5 | 21.8 | 18.7 | 18.8 | 14.6 | 18.9 | 17.8 | 20.8 | 22.7 |
| Uttar Pradesh | 12.3 | 9.6 | 10.7 | 11.3 | 8.3 | 5.5 | 6.5 | 8.4 | 8.9 | 8.9 | 11.6 | 14.3 | 9.4 |
| West-Bengal | 12.6 | 13.7 | 13.3 | 14.0 | 12.7 | 11.1 | 9.9 | 10.6 | 9.6 | 12.4 | 16.1 | 18.4 | 12.5 |
| Delhi | 6.0 | 5.3 | 7.6 | 6.0 | 8.2 | 4.2 | 6.0 | 4.1 | 7.9 | 10.5 | 11.0 | 21.9 | 9.0 |

Table A.3 (contd.)

| State | <90 | 90-110 | 110-135 | 135-160 | 160-185 | 185-215 | 215-255 | 255-310 | 310-385 | 385-520 | 520-700 | 700 | All |
|--------------------|------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------|------|
| Urban Areas: Males | | | | | | | | | | | | | |
| All India | 42.7 | 46.5 | 47.5 | 47.0 | 50.5 | 50.3 | 51.1 | 53.5 | 54.8 | 57.8 | 57.8 | 58.7 | 50.6 |
| Andhra Pradesh | 41.4 | 47.3 | 50.2 | 49.9 | 54.0 | 50.4 | 51.2 | 50.1 | 51.5 | 54.8 | 53.8 | 59.3 | 50.3 |
| Assam | 37.4 | 46.9 | 44.2 | 42.3 | 45.2 | 46.7 | 47.5 | 53.3 | 60.2 | 72.0 | 77.1 | 78.4 | 51.2 |
| Bihar | 39.7 | 40.5 | 46.0 | 44.0 | 47.1 | 46.7 | 45.2 | 42.6 | 49.3 | 49.6 | 44.4 | 63.0 | 44.8 |
| Gujarat | 46.2 | 46.3 | 47.3 | 44.3 | 48.6 | 49.1 | 53.0 | 55.7 | 60.7 | 59.2 | 65.0 | 63.2 | 51.0 |
| Haryana | 50.0 | 36.1 | 47.6 | 47.1 | 50.5 | 59.7 | 56.1 | 61.1 | 57.6 | 66.9 | 65.6 | 57.2 | 55.3 |
| Himachal Pradesh | 62.4 | 26.5 | 43.9 | 47.8 | 42.8 | 33.4 | 40.9 | 52.9 | 39.7 | 56.9 | 58.4 | 58.4 | 46.6 |
| Jammu & Kashmir | 46.4 | 42.2 | 49.4 | 49.6 | 52.5 | 52.6 | 50.1 | 53.8 | 56.9 | 60.9 | 60.7 | 60.8 | 53.1 |
| Karnataka | 42.2 | 52.2 | 46.1 | 44.4 | 53.8 | 52.5 | 49.0 | 52.7 | 50.9 | 55.0 | 57.1 | 52.8 | 49.4 |
| Kerala | 42.2 | 52.5 | 48.7 | 53.5 | 57.8 | 55.6 | 50.8 | 53.0 | 53.9 | 51.5 | 55.0 | 64.5 | 53.0 |
| Madhya Pradesh | 42.4 | 43.8 | 47.6 | 46.3 | 47.0 | 48.4 | 46.7 | 50.4 | 52.0 | 51.9 | 53.9 | 52.9 | 48.0 |
| Maharashtra | 41.8 | 45.6 | 46.3 | 43.7 | 50.0 | 48.5 | 48.9 | 50.3 | 49.6 | 57.5 | 56.7 | 55.7 | 49.6 |
| Orissa | 42.2 | 49.3 | 47.6 | 44.2 | 48.7 | 45.6 | 47.8 | 49.5 | 55.2 | 56.1 | 77.6 | 73.3 | 49.3 |
| Punjab | 54.2 | 47.5 | 44.0 | 49.7 | 50.4 | 49.2 | 54.4 | 57.4 | 59.5 | 59.1 | 60.4 | 62.9 | 54.0 |
| Rajasthan | 44.3 | 43.9 | 44.3 | 43.1 | 44.3 | 47.0 | 47.5 | 51.3 | 50.8 | 53.7 | 49.1 | 59.8 | 47.1 |
| Tamil Nadu | 46.2 | 51.4 | 51.7 | 51.3 | 56.7 | 55.1 | 57.1 | 60.2 | 62.0 | 61.4 | 63.2 | 62.3 | 55.8 |
| Uttar Pradesh | 42.4 | 46.6 | 46.5 | 49.0 | 48.8 | 48.3 | 51.5 | 52.5 | 52.1 | 56.8 | 55.0 | 46.6 | 48.9 |
| West-Bengal | 40.2 | 47.1 | 48.7 | 48.7 | 52.2 | 55.3 | 53.5 | 59.1 | 65.5 | 62.5 | 57.0 | 60.5 | 53.9 |
| Delhi | 45.4 | 44.2 | 32.8 | 46.5 | 49.3 | 44.9 | 56.5 | 57.6 | 53.8 | 60.0 | 61.6 | 67.2 | 54.4 |

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Table A.4: Worker-Population Ratios (All Ages) by Household Type, NSS 43rd Round (1987-88)

| State | Self-Employed | | | Agri. Labour | Other Labour | Sub- total | Others | All |
|-----------------------------|--------------------------|----------------------------------|---------------|-----------------|-----------------|---------------|--------|------|
| | Agri. Occu- pation | Non- agri. Occu- pation | Sub- total | | | | | |
| Rural Areas: Females | | | | | | | | |
| All India | 31.4 | 27.2 | 30.5 | 39.9 | 34.3 | 38.6 | 17.3 | 32.3 |
| Andhra Pradesh | 48.7 | 45.5 | 47.7 | 53.1 | 41.0 | 50.6 | 18.5 | 47.0 |
| Assam | 13.8 | 8.8 | 12.9 | 22.6 | 26.5 | 23.9 | 17.1 | 16.2 |
| Bihar | 15.9 | 14.8 | 15.7 | 27.1 | 25.5 | 26.9 | 9.9 | 19.3 |
| Gujarat | 37.8 | 22.1 | 34.8 | 47.4 | 42.7 | 45.8 | 13.8 | 38.1 |
| Haryana | 34.4 | 23.8 | 32.2 | 32.2 | 27.8 | 31.0 | 16.2 | 29.7 |
| Himachal Pradesh | 50.9 | 39.7 | 49.7 | 35.0 | 48.5 | 44.2 | 38.9 | 48.0 |
| Jammu & Kashmir | 39.5 | 24.5 | 36.6 | 28.5 | 37.2 | 34.6 | 25.6 | 34.7 |
| Karnataka | 32.6 | 32.0 | 32.5 | 48.2 | 37.6 | 46.5 | 17.4 | 37.7 |
| Kerala | 26.3 | 28.5 | 27.2 | 31.7 | 28.0 | 30.3 | 26.1 | 28.6 |
| Madhya Pradesh | 40.8 | 35.4 | 40.1 | 47.4 | 35.0 | 46.0 | 20.4 | 41.0 |
| Maharashtra | 49.1 | 34.0 | 46.2 | 53.1 | 34.4 | 50.0 | 26.7 | 46.2 |
| Orissa | 24.9 | 28.0 | 25.8 | 33.9 | 34.6 | 34.0 | 11.2 | 27.6 |
| Punjab | 32.8 | 29.8 | 31.9 | 36.9 | 29.6 | 35.2 | 22.0 | 31.7 |
| Rajasthan | 50.6 | 36.7 | 47.6 | 38.2 | 47.0 | 43.8 | 25.0 | 45.0 |
| Tamil Nadu | 48.1 | 42.7 | 46.1 | 53.6 | 40.8 | 50.4 | 21.6 | 46.1 |
| Uttar Pradesh | 21.4 | 18.7 | 20.9 | 29.1 | 22.4 | 27.7 | 13.3 | 21.9 |
| West Bengal | 17.8 | 18.9 | 18.2 | 23.6 | 21.1 | 23.1 | 11.3 | 19.6 |
| Delhi | - | 6.8 | 3.0 | - | 53.4 | 3.1 | 6.8 | 5.1 |
| Rural Areas: Males | | | | | | | | |
| All India | 54.8 | 53.6 | 54.5 | 56.2 | 54.1 | 55.7 | 41.2 | 53.9 |
| Andhra Pradesh | 62.4 | 59.4 | 61.5 | 61.7 | 56.4 | 60.6 | 39.0 | 59.5 |
| Assam | 51.3 | 49.8 | 51.0 | 53.3 | 56.5 | 54.4 | 46.3 | 51.4 |
| Bihar | 50.4 | 48.7 | 50.0 | 53.4 | 53.5 | 53.4 | 35.4 | 50.0 |
| Gujarat | 58.2 | 56.9 | 58.0 | 56.0 | 55.1 | 55.7 | 47.7 | 55.9 |
| Haryana | 50.4 | 47.6 | 49.7 | 49.5 | 45.9 | 48.5 | 32.8 | 47.5 |
| Himachal Pradesh | 54.9 | 56.1 | 55.0 | 54.4 | 55.5 | 55.1 | 44.1 | 53.9 |
| Jammu and Kashmir | 54.7 | 53.4 | 54.3 | 54.5 | 56.5 | 55.9 | 45.9 | 53.5 |
| Karnataka | 58.9 | 54.1 | 57.9 | 58.0 | 53.5 | 57.3 | 43.9 | 56.8 |
| Kerala | 47.7 | 53.4 | 50.2 | 51.9 | 50.7 | 51.5 | 48.5 | 50.6 |
| Madhya Pradesh | 55.4 | 53.8 | 55.2 | 55.0 | 56.8 | 55.2 | 43.7 | 54.6 |
| Maharashtra | 55.7 | 56.9 | 55.9 | 56.1 | 50.5 | 55.1 | 44.2 | 54.6 |
| Orissa | 57.1 | 58.0 | 57.4 | 59.8 | 59.1 | 59.7 | 38.1 | 56.6 |
| Punjab | 61.3 | 52.6 | 58.4 | 57.8 | 52.0 | 56.5 | 43.1 | 56.0 |
| Rajasthan | 52.3 | 50.5 | 51.9 | 50.1 | 54.2 | 52.7 | 35.7 | 51.2 |
| Tamil Nadu | 63.9 | 59.1 | 62.1 | 59.1 | 58.4 | 58.9 | 41.7 | 58.7 |
| Uttar Pradesh | 52.8 | 51.9 | 52.6 | 52.9 | 53.6 | 53.0 | 37.5 | 51.8 |
| West Bengal | 56.4 | 53.5 | 55.4 | 58.1 | 50.9 | 56.8 | 43.8 | 55.0 |
| Delhi | 33.1 | 53.1 | 40.6 | 48.7 | 100.0 | 53.0 | 39.6 | 42.6 |

Table A.4 (contd.)

| State | Self Employed | Regular Salaried | Casual Labour | Others | All |
|----------------------|---------------|------------------|---------------|--------|------|
| Urban Areas: Females | | | | | |
| All India | 15.2 | 12.8 | 26.39 | 7.6 | 15.2 |
| Andhra Pradesh | 25.8 | 14.3 | 33.5 | 8.1 | 21.5 |
| Assam | 6.3 | 9.1 | 15.2 | 9.0 | 8.4 |
| Bihar | 7.2 | 6.2 | 17.9 | 2.5 | 7.9 |
| Gujarat | 11.3 | 9.0 | 19.2 | 3.8 | 11.2 |
| Haryana | 9.6 | 15.5 | 16.6 | 8.7 | 12.3 |
| Himachal Pradesh | 13.0 | 15.9 | 28.0 | 15.5 | 15.6 |
| Jammu & Kashmir | 14.2 | 14.8 | 19.6 | 8.8 | 14.5 |
| Karnataka | 17.8 | 12.7 | 39.9 | 9.2 | 19.6 |
| Kerala | 18.3 | 21.3 | 21.3 | 15.6 | 19.8 |
| Madhya Pradesh | 17.5 | 9.3 | 29.2 | 10.1 | 14.4 |
| Maharashtra | 15.1 | 13.7 | 31.7 | 6.2 | 15.9 |
| Orissa | 14.1 | 8.4 | 28.4 | 3.8 | 12.5 |
| Punjab | 10.9 | 13.2 | 20.3 | 5.4 | 12.3 |
| Rajasthan | 21.4 | 15.5 | 28.0 | 8.0 | 19.1 |
| Tamil Nadu | 26.1 | 18.9 | 31.1 | 5.4 | 22.7 |
| Uttar Pradesh | 9.3 | 9.1 | 13.5 | 7.1 | 9.4 |
| West Bengal | 12.2 | 11.9 | 17.2 | 12.0 | 12.5 |
| Delhi | 7.7 | 10.4 | 11.5 | 1.9 | 9.0 |
| Urban Areas: Males | | | | | |
| All India | 54.0 | 50.4 | 55.0 | 18.5 | 50.6 |
| Andhra Pradesh | 54.2 | 49.0 | 57.0 | 16.9 | 50.3 |
| Assam | 55.9 | 50.7 | 55.7 | 13.4 | 51.2 |
| Bihar | 48.3 | 42.4 | 56.1 | 24.2 | 44.8 |
| Gujarat | 54.0 | 51.1 | 49.2 | 10.5 | 51.0 |
| Haryana | 59.4 | 53.0 | 64.7 | 17.2 | 55.3 |
| Himachal Pradesh | 50.2 | 48.8 | 61.3 | 25.4 | 46.6 |
| Jammu & Kashmir | 56.1 | 50.8 | 56.5 | 33.6 | 53.1 |
| Karnataka | 53.4 | 50.5 | 51.5 | 14.1 | 49.4 |
| Kerala | 54.7 | 53.6 | 55.8 | 25.5 | 53.0 |
| Madhya Pradesh | 52.0 | 46.8 | 50.3 | 27.0 | 48.0 |
| Maharashtra | 53.9 | 49.8 | 52.4 | 13.7 | 49.6 |
| Orissa | 52.0 | 49.2 | 58.1 | 19.8 | 49.3 |
| Punjab | 55.2 | 53.6 | 58.8 | 25.8 | 54.0 |
| Rajasthan | 49.7 | 47.6 | 53.8 | 6.7 | 47.1 |
| Tamil Nadu | 61.0 | 55.1 | 57.5 | 8.8 | 55.8 |
| Uttar Pradesh | 52.5 | 46.1 | 56.7 | 23.9 | 48.9 |
| West Bengal | 55.3 | 55.5 | 56.5 | 20.4 | 53.9 |
| Delhi | 56.6 | 54.7 | 68.4 | 2.3 | 54.4 |

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Table A.5: Logistic Regressions (Odds Ratios) of the Factor Contributing to a Woman (Aged 15+) as Worker (Principal or Principal and Subsidiary Status) in Western India

| Predictor | 1983 | | 1987-88 | |
|--|-------------------|-------------|-------------------|-------------|
| | Principal Workers | All Workers | Principal Workers | All Workers |
| Rural Gujarat | | | | |
| I Characteristics of Females Aged 15 and Above | | | | |
| 1 Age (15-19) | | | | |
| 20-24 | 1.24 | 1.32@ | 1.23 | 1.45* |
| 25-29 | 0.93 | 1.31 | 1.75* | 2.13* |
| 30-39 | 1.26 | 1.44** | 1.48* | 1.80* |
| 40-49 | 0.84 | 0.95 | 1.21 | 1.37** |
| 50-59 | 0.48* | 0.47* | 0.60* | 0.56* |
| 60+ | 0.10* | 0.10* | 0.11* | 0.11* |
| 2 Whether Never Married | 0.83 | 1.01 | 1.01 | |
| 3 Education (Middle and Above) | | | | |
| Primary | 2.04* | 2.20* | 1.53* | 1.43* |
| Illiterate | 2.89* | 2.62* | 2.03* | 2.04* |
| II Characteristics of the Households | | | | |
| 4 Household Size (1-5) | | | | |
| 6-8 | 0.76** | 0.77** | 0.84 | 0.78** |
| 9+ | 0.78 | 0.70@ | 1.10 | 0.85 |
| 5 Child-Woman Ratio \$ (No Married Woman) | | | | |
| 0 | 0.81 | 0.80 | 0.84 | 0.83 |
| 0.1-1.0 | 0.88 | 0.85 | 0.88 | 0.83 |
| 1.1-2.0 | 0.78 | 0.80 | 0.63* | 0.63* |
| 2.1-3.0 | 0.80 | 1.02 | 0.67* | 0.73@ |
| 3.1+ | 0.81 | 1.10 | 0.67 | 0.80 |
| 6 Child-Dependency Ratio \$\$ (0) | | | | |
| 0.01-0.5 | 0.82 | 0.90 | 0.78** | 0.86 |
| 0.51-0.99 | 0.88 | 0.97 | 0.91 | 0.84 |
| 1.0-1.5 | 0.91 | 1.06 | 1.02 | 1.26 |
| 1.51+ | 1.13 | 1.06 | 1.10 | 1.23 |
| 7 Number of Adult Females (1) | | | | |
| 2 | 0.98 | 0.98 | 1.17 | 1.11 |
| 3 | 1.11 | 0.94 | 1.22 | 1.14 |
| 4+ | 1.50** | 1.45 | 0.97 | 0.81 |
| 8 Whether a Child Worker in the Household | | | | |
| | 1.26** | 1.80* | 1.99* | 2.62 |
| 9 No. of Adult Male Workers (<2) | | | | |
| 2 | 0.85 | 0.96 | 0.72* | 0.94 |
| 3 | 0.42* | 0.65* | 0.53* | 0.90 |
| 4+ | 0.60* | 0.60* | 0.48* | 0.81 |
| 10 Major Source of Income (Regular Employment) | | | | |
| Self-employment in Agri. | 2.85 | 1.72* | 2.04* | 1.92** |
| Self-employment in Non-Agri | 1.79 | 1.67@ | 1.87** | 1.47 |
| Casual Labour | 3.41 | 3.10* | 3.34* | 2.93* |
| 11 Quintile of Monthly Per Capita Expenditure (5) | | | | |
| 4 | 0.77* | 0.80** | 1.14 | 1.24@ |
| 3 | 1.06 | 1.03 | 1.27** | 1.12 |
| 2 | 0.94 | 0.92 | 1.15 | 1.06 |
| 1 (Lowest) | 0.83** | 0.79@ | 1.65 | 1.42* |

Table A.5 (contd.)

| Predictor | 1983 | | 1987-88 | |
|---|--------------------|--------------------|--------------------|--------------------|
| | Principal Workers | All Workers | Principal Workers | All Workers |
| 12 Caste/Tribe Status (Others) | | | | |
| Scheduled Caste | 1.08 | 1.18 | 1.10 | 1.22 ^a |
| Scheduled Tribe | 1.10 | 1.28 ^a | 1.91* | 2.13* |
| 13 Per Capita Land Possessed (0) | | | | |
| 0.01-0.169 | 2.16* | 1.62* | 1.11 | 1.23 ^a |
| 0.17-0.40 | 2.71* | 2.38* | 1.66* | 2.36* |
| 0.41-0.83 | 3.36* | 2.84* | 1.59* | 2.06* |
| 0.831-1.24 | 2.28* | 2.78* | 1.52* | 1.96* |
| 1.241-1.66 | 1.60 ^{**} | 1.53 ^{**} | 1.61* | 1.88* |
| 1.661-2.49 | 1.65* | 2.19* | 1.73* | 1.86* |
| 2.50+ | 2.11* | 2.18 ^a | 1.56 ^{**} | 2.05* |
| III Characteristics of the Head of Household | | | | |
| 14 Whether Female | | | | |
| 15 Age (60+) | | | | |
| <40 | 0.71* | 0.74 ^{**} | 0.65* | 0.62 |
| 40-49 | 0.72 ^{**} | 0.78 ^a | 0.71* | 0.67 |
| 50-59 | 0.63* | 0.70* | 0.75 ^{**} | 0.64 |
| 16 Education (Middle and Above) | | | | |
| Primary | 1.04 | 1.14 | 1.21 | 1.44* |
| Illiterate | 1.06 | 1.10 | 1.64* | 1.80* |
| 17 Activity Status (Non-worker) | | | | |
| SE Agri. | 2.56* | 2.35* | 2.12* | 2.22* |
| SE Mining+Con+Manf. | 2.63* | 1.88 ^a | 1.59 | 1.48 |
| SE Trade+Tsp+Oth. | 1.17 | 0.87 | 1.39 | 1.65 ^a |
| RE Agri. | 5.11* | 5.21* | 0.99 | 0.98 |
| RE Mining+Con+Manf. | 2.41* | 1.12 | 0.77 | 0.70 |
| RE Trade+Tsp+Oth. | 1.44 | 0.93 | 1.80* | 2.33* |
| CL Agri. | 3.28* | 2.27* | 2.28* | 2.56* |
| CL Mining+Con+Manf. | 2.12* | 1.38 | 2.57* | 2.75* |
| CL Trade+Tsp+Oth. | 0.56 | 0.47 | 1.27 | 1.70 |
| IV Physical Environment | | | | |
| 18 Season (Jan-March) | | | | |
| April-June | 0.94 | 0.95 | 0.89 | 0.81 |
| July-Sept. | 0.92 | 1.08 | 0.74* | 0.57 ^{**} |
| Oct-Dec. | 1.07 | 1.35* | 0.76* | 0.68* |
| 19 Agro-Climatic Region (Eastern Tribal) | | | | |
| Northern Plains | 1.45* | 1.89* | 1.43 | 1.21 |
| Eastern Plains | 0.66* | 1.06 | 0.75 ^{**} | 0.48* |
| Dry Areas | 0.94 | 1.44 ^{**} | 0.66* | 0.57* |
| Saurashtra | 0.41* | 0.59* | 0.89 | 0.78 |
| % of Correctly Predicted Cases | 71.9 | 72.7 | 70.1 | 72.6 |
| Sample Size | 4314 | 4314 | 4718 | 4718 |

Table A.5 (contd.)

| Predictor | 1983 | | 1987-88 | |
|---|-------------------|-------------|-------------------|-------------|
| | Principal Workers | All Workers | Principal Workers | All Workers |
| Rural Maharashtra | | | | |
| I Characteristics of Females Aged 15 and Above | | | | |
| 1 Age (15-19) | | | | |
| 20-24 | 1.10 | 1.10 | 1.69* | 1.90* |
| 25-29 | 1.53* | 1.60* | 1.71* | 2.01* |
| 30-39 | 1.67* | 1.73* | 2.39* | 2.59* |
| 40-49 | 1.02 | 1.09 | 1.75* | 1.79* |
| 50-59 | 0.34* | 0.30* | 0.73* | 0.78* |
| 60+ | 0.05* | 0.04* | 0.13* | 0.14* |
| 2 Whether Never Married | 0.50* | 0.47* | 0.84* | 0.85* |
| 3 Education (Middle and Above) | | | | |
| Primary | 2.20* | 2.41* | 1.72* | 1.78* |
| Illiterate | 3.84* | 4.29* | 2.79* | 2.83* |
| II Characteristics of the Households | | | | |
| 4 Household Size (1-5) | | | | |
| 6-8 | 0.98 | 0.91 | 1.05 | 1.00 |
| 9+ | 1.05 | 0.84 | 1.20 | 1.14 |
| 5 Child-Woman Ratio \$ (No Married Woman) | | | | |
| 0 | 0.91 | 0.93 | 0.81** | 0.80** |
| 0.1-1.0 | 0.80** | 0.83 | 0.71* | 0.70* |
| 1.1-2.0 | 0.67* | 0.77** | 0.61* | 0.60* |
| 2.1-3.0 | 0.61* | 0.63* | 0.63* | 0.65* |
| 3.1+ | 0.44* | 0.48* | 0.41* | 0.45* |
| 6 Child Dependency Ratio \$\$ (0) | | | | |
| 0.01-0.5 | 0.71* | 0.78** | 3.51* | 4.29* |
| 0.51-0.99 | 0.76** | 0.75** | 0.97 | 0.69 |
| 1.0-1.5 | 0.72* | 0.74** | 1.89** | 1.55 |
| 1.51+ | 0.73* | 0.69** | 1.59 | 1.36 |
| 7 Number of Adult Females (1) | | | | |
| 2 | 0.89 | 0.74* | 0.69* | 0.66* |
| 3 | 0.96 | 0.70* | 0.69* | 0.62* |
| 4+ | 0.89 | 0.65* | 0.70* | 0.65* |
| 8 Whether a Child Worker in the Household | | | | |
| | 1.36* | 1.74* | 1.93* | 2.51* |
| 9 No. of Adult Male Workers (<2) | | | | |
| 2 | 0.66* | 0.74* | 0.73* | 0.79* |
| 3 | 0.50* | 0.55* | 0.62* | 0.68* |
| 4+ | 0.54* | 0.56* | 0.50* | 0.59* |
| 10 Major Source of Income (Regular Employment) | | | | |
| Self-employment in Agri. | 2.21** | 2.28* | 1.47* | 1.39* |
| Self-employment in Non-Agri. | 1.90* | 1.22 | 1.90 | 0.89 |
| Casual Labour | 3.13* | 2.33* | 1.92* | 1.87* |
| 11 Quintile of Monthly Per Capita Expenditure (5) | | | | |
| 4 | 1.32* | 1.24** | 1.22*- | 1.42* |
| 3 | 1.63* | 1.46** | 1.54* | 1.60* |
| 2 | 1.56* | 1.35** | 1.60* | 1.75* |
| 1 (Lowest) | 1.88* | 1.58** | 1.45* | 1.60* |

Table A.5 (contd.)

| Predictor | 1983 | | 1987-88 | |
|--|-------------------|-------------|-------------------|-------------|
| | Principal Workers | All Workers | Principal Workers | All Workers |
| 12 Caste/Tribe Status (Others) | | | | |
| Scheduled Caste | 1.45* | 1.22@ | 0.95 | 0.86 |
| Scheduled Tribe | 1.50* | 1.38* | 1.07 | 1.00 |
| 13 Per Capita Land Possessed (0) | | | | |
| 0.01-0.169 | 1.16 | 1.18 | 1.05 | 1.34* |
| 0.17-0.40 | 1.96* | 2.16* | 1.37* | 1.89* |
| 0.41-0.83 | 1.93* | 2.06* | 1.47* | 2.00* |
| 0.831-1.24 | 2.39* | 2.04* | 1.80* | 2.26* |
| 1.241-1.66 | 2.55* | 2.33* | 1.74* | 2.22* |
| 1.661-2.49 | 3.10* | 2.21* | 1.61* | 2.05* |
| 2.50+ | 2.24* | 1.39** | 1.31* | 1.67* |
| III Characteristics of the Head of Household | | | | |
| 14 Whether Female | 2.39* | 2.18* | 1.93* | 1.88* |
| 15 Age (60+) | | | | |
| <40 | 0.55* | 0.49* | 0.59* | 0.58* |
| 40-49 | 0.62* | 0.52* | 0.60* | 0.63* |
| 50-59 | 0.59* | 0.55* | 0.74* | 0.76* |
| 16 Education (Middle and Above) | | | | |
| Primary | 1.24** | 1.22** | 1.13 | 1.10 |
| Illiterate | 1.56* | 1.48* | 1.25* | 1.13 |
| 17 Activity Status (Non-worker) | | | | |
| SE Agri. | 2.57* | 2.75* | 2.71* | 2.47* |
| SE Mining+Con+Manf. | 2.36* | 2.85* | 2.30* | 2.23* |
| SE Trade+Tsp+Oth. | 1.51** | 1.90* | 1.68* | 1.63* |
| RE Agri. | 2.90* | 2.79* | 3.23* | 3.31* |
| RE Mining+Con+Manf. | 0.97 | 0.85 | 1.20 | 0.95 |
| RE Trade+Tsp+Oth. | 1.95* | 1.40@ | 1.35** | 1.29@ |
| CL Agri. | 3.12* | 2.91* | 3.14* | 2.88* |
| CL Mining+Con+Manf. | 2.84* | 2.74* | 1.58* | 1.43@ |
| CL Trade+Tsp+Oth. | 2.22** | 2.04** | 1.05 | 1.22 |
| IV Physical Environment | | | | |
| 18 Season (Jan-March) | | | | |
| April-June | 1.06 | 1.03 | 1.18** | 1.16** |
| July-Sept. | 1.14 | 1.47* | 1.14** | 0.96 |
| Oct-Dec. | 1.41* | 1.59* | 1.41* | 1.21* |
| 19 Agro-Climatic Region (Konkan) | | | | |
| Poona Div. | 1.02 | 1.36* | 1.43* | 1.85* |
| Khandesh and Nasik | 2.60* | 2.48* | 1.67* | 1.58* |
| Marathwada | 1.58* | 1.73* | 2.92* | 2.25* |
| Nagpur Div. | 1.71* | 2.02* | 1.19@ | 1.08 |
| Bhandara and Charla | 1.18 | 2.93* | 1.07 | 1.71* |
| % of Correctly Predicted Cases | 77.4 | 81.1 | 74.0 | 76.3 |
| Sample Size | 8411 | 8411 | 9339 | 9339 |

Table A 5 (contd.)

| Predictor | 1983 | | 1987-88 | |
|---|-------------------|-------------|-------------------|-------------|
| | Principal Workers | All Workers | Principal Workers | All Workers |
| Urban Gujarat | | | | |
| I Characteristics of Females Aged 15 and Above | | | | |
| 1 Age (15-19) | | | | |
| 20-24 | 1.85* | 1.78* | 2.12* | 1.93* |
| 25-29 | 2.48* | 2.29* | 2.77* | 2.09* |
| 30-39 | 5.24* | 4.53* | 4.30* | 3.85* |
| 40-49 | 4.83* | 3.79* | 4.00* | 3.11* |
| 50-59 | 3.05* | 2.28* | 2.49* | 1.65@ |
| 60+ | 1.01 | 0.81 | 0.77 | 0.57@ |
| 2 Whether Never Married | 1.53** | 1.26 | 1.33** | 1.19 |
| 3 Education (Middle and Above) | | | | |
| Primary | 0.56* | 0.67* | 0.74@ | 0.92 |
| Illiterate | 0.78 | 0.86 | 0.78 | 1.00 |
| II Characteristics of the Household | | | | |
| 4 Household Size (1-5) | | | | |
| 6-8 | 0.85 | 0.90 | 0.87 | 0.76@ |
| 9+ | 1.01 | 1.03 | 0.95 | 0.74 |
| 5 Child Woman Ratio \$ (No Married Woman) | | | | |
| 0 | 0.63* | 0.68** | 0.42* | 0.40* |
| 0.1-1.0 | 1.00 | 0.88** | 0.37* | 0.38* |
| 1.1-2.0 | 0.81 | 0.66 | 0.55* | 0.61** |
| 2.1-3.0 | 0.92 | 0.81 | 0.40* | 0.41* |
| 3.1+ | 0.61 | 0.57 | 0.06* | 0.22* |
| 6 Child Dependency Ratio \$\$ (0) | | | | |
| 0.01-0.5 | 0.69** | 0.84 | 0.93 | 1.18 |
| 0.51-0.99 | 0.63** | 0.80 | 0.74 | 0.77 |
| 1.0-1.5 | 0.49* | 0.73 | 0.68 | 0.91 |
| 1.51+ | 0.73 | 0.87 | 0.64 | 0.87 |
| 7 Number of Adult Females (1) | | | | |
| 2 | 1.12 | 1.07 | 0.98 | 0.93 |
| 3 | 1.26 | 1.11 | 0.94 | 1.08 |
| 4+ | 1.31 | 1.11 | 1.39 | 1.47 |
| 8 Whether a Child Worker in the Household | | | | |
| | 3.26* | 5.16* | 1.43 | 1.68 |
| 9 No. of Adult Male Workers (<2) | | | | |
| 2 | 0.61* | 0.67* | 0.47* | 0.59 |
| 3 | 0.40* | 0.58* | 0.47* | 0.80 |
| 4+ | 0.20* | 0.26* | 0.35* | 1.11 |
| 10 Major Source of Income (Regular Employment) | | | | |
| Self-employment in Agri. | - | - | - | - |
| Self-employment in Non-Agri. | 1.45@ | 1.46** | 14.37* | 7.52* |
| Casual Labour | - | - | 25.05* | 9.67 |
| 11 Quintile of Monthly Per Capita Expenditure (5) | | | | |
| 4 | 0.75 | 0.81 | 0.61** | 0.70@ |
| 3 | 0.91 | 1.01 | 0.66@ | 0.75 |
| 2 | 1.41@ | 1.40@ | 0.98 | 1.06 |
| 1 (Lowest) | 1.41@ | 1.36 | 1.31 | 1.66** |

Table A.5 (contd.)

| Predictor | 1983 | | 1987-88 | |
|--|-------------------|-------------|-------------------|-------------|
| | Principal Workers | All Workers | Principal Workers | All Workers |
| 12 Caste/Tribe Status (Others) | | | | |
| Scheduled Caste | 1.47 | 1.33@ | 2.52* | 2.28* |
| Scheduled Tribe | 1.09 | 1.34 | 2.61* | 2.20* |
| III Characteristics of the Head of Household | | | | |
| 13 Whether Female | | | | |
| | 4.57* | 4.41* | 5.86* | 4.87* |
| 14 Age (60+) | | | | |
| <40 | 0.61* | 0.62* | 0.76 | 0.77 |
| 40-49 | 0.48* | 0.50* | 0.66@ | 0.73 |
| 50-59 | 0.69** | 0.71** | 0.51* | 0.49* |
| 15 Education (Middle and Above) | | | | |
| Primary | 1.22 | 1.20 | 1.70* | 1.49* |
| Illiterate | 1.43@* | 1.51* | 2.22* | 1.95* |
| 16 Activity Status (Non-worker) | | | | |
| SE Agri. | 16.98* | 18.10* | 13.01* | 7.55* |
| SE Mining+Con+Manf. | 3.41* | 3.92* | 3.75* | 2.76* |
| SE Trade+Tsp+Oth. | 1.82** | 1.75** | 2.38* | 1.85* |
| RE Agri. | - | - | 2.72@ | 2.52/a |
| RE Mining+Con+Manf. | 2.10* | 1.80* | 1.67** | 1.41 |
| RE Trade+Tsp+Oth. | 3.97* | 3.48* | 1.49/a | 1.52/a |
| CL Agri. | 15.34* | 19.20* | 3.98* | 7.87* |
| CL Mining+Con+Manf. | 7.41* | 5.36* | 1.55 | 1.54 |
| CL Trade+Tsp+Oth. | 5.72* | 5.34* | 2.10** | 2.10* |
| IV Physical Environment | | | | |
| 17 Season (Jan-March) | | | | |
| April-June | 0.86 | 0.90 | 0.95 | 0.93 |
| July-Sept. | 1.11 | 0.91 | 0.72** | 0.85 |
| Oct-Dec. | 1.52* | 1.34** | 0.97 | 1.00 |
| 18. Agro-Climatic Region (Eastern Tribal) | | | | |
| Northern Plains | 2.38** | 3.64* | 0.57* | 0.49* |
| Eastern Plains | 2.19** | 2.92* | 0.45* | 0.51* |
| Dry Areas | 0.95 | 2.50** | 0.43* | 0.44* |
| Saurashtra | 1.32 | 2.03@ | 0.44* | 0.43* |
| % of Correctly | | | | |
| Predicted Cases | 86.5 | 84.1 | 89.1 | 85.6 |
| Sample Size | 3562 | 3562 | 3564 | 3564 |

Table A.5 (contd.)

| Predictor | 1983 | | 1987-88 | |
|--|-------------------|-------------|-------------------|-------------|
| | Principal Workers | All Workers | Principal Workers | All Workers |
| Urban Maharashtra | | | | |
| I Characteristics of Females Aged 15 and Above | | | | |
| 1 Age (15-19) | | | | |
| 20-24 | 2.81* | 2.59* | 2.04* | 2.27* |
| 25-29 | 5.01* | 4.32* | 3.29* | 3.17* |
| 30-39 | 6.63* | 5.87* | 4.85* | 5.18* |
| 40-49 | 5.48* | 4.97* | 4.93* | 5.44* |
| 50-59 | 3.20* | 2.86* | 3.06* | 3.18* |
| 60+ | 1.21 | 1.03 | 0.67** | 0.75 |
| 2 Whether Never Married | | | | |
| | 1.61* | 1.51* | 1.41* | 1.43* |
| 3 Education (Middle and Above) | | | | |
| Primary | 0.98 | 0.94 | 0.65* | 0.70* |
| Illiterate | 1.42* | 1.31* | 1.04 | 1.04 |
| II Characteristics of the Household | | | | |
| 4 Household Size (1-5) | | | | |
| 6-8 | 0.85 | 0.81** | 0.67* | 0.67* |
| 9+ | 0.81 | 0.83 | 0.46* | 0.46* |
| 5 Child Woman Ratio § (No Married Woman) | | | | |
| 0 | 0.84 | 0.85 | 0.81** | 0.86 |
| 0.1-1.0 | 1.01 | 0.92 | 0.91 | 0.86 |
| 1.1-2.0 | 0.74** | 0.70* | 0.77@ | 0.78@ |
| 2.1-3.0 | 0.72** | 0.71** | 0.59* | 0.60* |
| 3.1+ | 0.60** | 0.59** | 0.60** | 0.48* |
| 6 Child Dependency Ratio §§ (0) | | | | |
| 0.01-0.5 | 0.84@ | 0.91 | 0.94 | 0.90 |
| 0.51-0.99 | 0.67* | 0.79@ | 1.02 | 0.97 |
| 1.0-1.5 | 0.81 | 0.92 | 0.76** | 0.86 |
| 1.51+ | 0.70@ | 0.81 | 0.93 | 0.93 |
| 7 Number of Adult Females (1) | | | | |
| 2 | 1.16 | 1.10 | 1.34 | 1.29* |
| 3 | 1.57 | 1.47* | 1.58 | 1.45* |
| 4+ | 1.26 | 1.19 | 1.80 | 1.56* |
| 8 Whether a Child Worker in the Household | | | | |
| | 1.77 | 2.25* | 3.53* | 6.58* |
| 9 No. of Adult Male Workers (0) | | | | |
| 1 | 0.79 | 0.80* | 0.71* | 0.80* |
| 2 | 0.60* | 0.63* | 0.76** | 0.86 |
| 3 | 0.44* | 0.51* | 0.39* | 0.57* |
| 10 Major Source of Income (Regular Employment) | | | | |
| Self-employment in Agri. | 0.98 | 0.92 | 4.90@ | 19.32* |
| Self-employment in Non-Agri. | | | 8.16* | 5.87* |
| Casual Labour | | | 14.64* | 9.95* |
| 11 Quintile of Monthly Per Capita Expenditure (5) | | | | |
| 4 | 0.57* | 0.59* | 0.60* | 0.66* |
| 3 | 0.61* | 0.66* | 0.55* | 0.68* |
| 2 | 0.75* | 0.82@ | 0.64* | 0.81@ |
| 1 (Lowest) | 1.14* | 1.18 | 0.97 | 1.20 |

Table A.5 (contd.)

| Predictor | 1983 | | 1987-88 | |
|--|------------------|-------------|------------------|-------------|
| | Principal Worker | All Workers | Principal Worker | All Workers |
| 12 Caste/Tribe Status (Others) | | | | |
| Scheduled Caste | 1.70* | 1.63* | 1.22 | 1.34 |
| Scheduled Tribe | 1.77* | 1.60* | 1.98 | 2.00* |
| III Characteristics of the Head of Household | | | | |
| 13 Whether Female | 3.51* | 3.20* | 3.31* | 3.12* |
| 14 Age (60+) | | | | |
| <40 | 0.59 | 0.58* | 0.85 | 0.90 |
| 40-49 | 0.58* | 0.60* | 0.58* | 0.62* |
| 50-59 | 0.68* | 0.67* | 0.67* | 0.68* |
| 15 Education (Middle and Above) | | | | |
| Primary | 1.27* | 1.43* | 1.30* | 1.22* |
| Illiterate | 1.92* | 2.08* | 1.71* | 1.51* |
| 16 Activity Status (Non-worker) | | | | |
| SE Agri. | 7.76* | 7.65* | 4.89* | 6.18* |
| SE Mining+Con+Manf. | 3.54* | 3.69* | 2.33* | 2.14* |
| SE Trade+Tsp+Oth. | 2.23* | 2.30* | 1.79* | 1.53* |
| RE Agri. | 13.50* | 13.15* | 5.44* | 3.88* |
| RE Mining+Con+Manf. | 2.27* | 2.24* | 1.10 | 1.03 |
| RE Trade+Tsp+Oth. | 2.37* | 2.33* | 1.14 | 1.02 |
| CL Agri. | 25.03* | 26.67** | 8.45* | 7.41* |
| CL Mining+Con+Manf. | 4.72* | 4.15* | 2.99* | 2.29* |
| CL Trade+Tsp+Oth. | 4.08* | 3.70* | 2.80* | 2.74* |
| IV Physical Environment | | | | |
| 17 Season (Jan-March) | | | | |
| April-June | 1.04 | 1.03 | 1.13 | 1.16(@) |
| July-Sept. | 1.03 | 0.94 | 1.07 | 1.05 |
| Oct-Dec. | 1.08 | 1.03 | 0.98 | 0.98 |
| 18 Agro-Climatic Region (Konkan) | | | | |
| Pune Div. | 1.35* | 1.45* | 1.31* | 1.39* |
| Khandesh and Nasik | 1.74* | 1.77* | 1.06 | 1.19 |
| Marathwada | 1.07 | 1.20 | 1.37** | 1.19 |
| Nagpur Div. | 0.82(@) | 1.01 | 0.74* | 0.68* |
| Bhandara and Charla | 1.64** | 2.18* | 0.87 | 0.88 |
| % of Correctly Predicted Cases | 83.1 | 81.5 | 83.8 | 81.4 |
| Sample Size | 7459 | 7459 | 8341 | 8341 |

Note: The base category of the predictor is shown in parentheses.

\$Number of children aged 0-9 per currently married woman aged 15-44.

\$\$ Number of children aged 0-14 per person aged 15-59. *p < .01. **p < .05, @p < .10.