

ESS/MISC/2/85



STATISTICS ON
WOMEN, CHILDREN AND AGED IN AGRICULTURE
IN INDIA

A Case Study

STATISTICS DIVISION
FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
ROME, 1985

FOREWORD

During the UN Decade of Women, which ends this year, it became apparent that official statistics do not reveal fully the actual status and role of women in agriculture. Such data are necessary for economic analysis and policy decisions in agricultural planning, food security, alleviation of rural poverty, rural development and agrarian reform. FAO has already launched a Special Data Collection Programme with a component of statistics on women in agriculture as follow-up of the World Conference on Agrarian Reform and Rural Development Programme of Action.

The present study has been commissioned by FAO under its Special Data Collection Programme and carried out by the researchers of the Institute of Social Studies Trust in New Delhi, India, under the leadership of Dr. Devaki Jain.

The main purpose of the study was to compile and analyse available data on agricultural workers, particularly women, children and aged persons and in the course of analysis to identify the data gaps.

It is hoped that other developing countries will carry out similar studies and, by identifying gaps in available data, will raise awareness of the need for such data.

Leroy Quance
Director
Statistics Division

TABLE OF CONTENTS

	<u>Page</u>
FOREWORD	i
LIST OF TABLES	iii
INTRODUCTION	v
CHAPTER I. MAJOR DATA SOURCES	1
CHAPTER II. INVENTORY OF DATA AND SELECTED TABLES	3
A. Economic Indicators	3
B. Fertility, Mortality, Marital Status and Literacy	19
CHAPTER III. DEFICIENCIES IN DATA AND RECOMMENDATIONS FOR IMPROVEMENT OF DATA AND FUTURE WORK	23
CHAPTER IV. STATISTICAL DEVELOPMENT - SOME ILLUSTRATIONS	34
ANNEX I: Subjects of Enquiry in the Different Rounds of the National Sample	42
ANNEX II: A Comparative Statement on Census Economic Questions	46
SELECTED BIBLIOGRAPHY	47

List of Tables

	<u>Page</u>
Table 1: Work participation rates (%) for main workers by age and sex, 1971 and 1981	4
Table 2: Labour force participation rates for rural population by age and sex under usual status (US) current weekly status (CWS) and current day status (CDS), NSS 32nd Round (1977-78)	6
Table 3: Work participation rates (%) in rural India: NSS 27th Round, NSS 32nd Round and 1961 Census (usual status)	7
Table 4: Distribution and sex ratio of main workers, marginal workers and non-workers, by broad industrial categories, 1981	8
Table 5: Percentage distribution of main workers, marginal workers and total workers (main plus marginal) by industrial categories, 1981	9
Table 6: Percentage distribution of child workers by activity, sex and residence, 1971 census	9
Table 7: Percentage of rural women engaged in domestic work but pursuing specified activities conferring economic benefits to the household ...	11
Table 8: Days employed per year for persons in rural labour households working as agricultural labourers, 1964-65 and 1974-75	12
Table 9: Number of days of wage employment per year of usually occupied women agricultural labourers, 1950-51 - 1974-75	13
Table 10: Number of days of wage employment per year for men, women and children belonging to agricultural households distributed by agricultural operations, 1964-65 - 1974-75	14
Table 11: Incidence of unemployment by sex (% of total labour force) in rural India and States/Union Territories, 1977-78	15
Table 12: Percentage distribution of persons classified as employed according to weekly status by number of days of work during the week	16
Table 13: Distribution of persons ('000) categorized as 'working' according to usual status but seeking or available for additional work	16
Table 14: Estimated number ('00) of females of age 5 and above usually engaged in domestic duties and willing to accept work at their residence by type of work acceptable	17
Table 15: Average daily wage earnings of casual labour in rural India by type of work (Rs.)	18
Table 16: Average daily earnings of workers of rural labour households engaged in agricultural operations	18
Table 17: Daily earnings of men, women and children in agricultural and rural labour households in agricultural and non-agricultural operations, 1964-65 and 1974-75	19
Table 18: Age-specific death rates by sex and residence, 1977	20
Table 19: Age-specific fertility rates in rural and urban India, 1972 and 1978 .	20

	<u>Page</u>
Table 20: Percentage distribution of female agricultural workers by marital status, 1971	21
Table 21: Percentage distribution of agricultural workers by educational levels in rural India, 1971	21
Table 22: Probable number of women huskers in the early twentieth century	37.

INTRODUCTION

In preparing this report we have concentrated on a systematic scan of data sources on agricultural workers in India and on identification of data gaps.

Surveys tend to concentrate on labour force participation, highlighting the economic roles of population. This is understandable as one of the most acute pressures on women in India is deprivation caused by poverty^{1/} and employment is seen as one level out of poverty.

Hence the report scans the employment and unemployment data in somewhat greater detail than other data areas. Indian employment data, however, are also known for their problems of comparability. Thus in some cases, trends are given with the requisite explanations regarding comparability. In other cases data may refer to only one point of time. The selection is based both on the need to indicate sources as well as to provide detail where it serves to illuminate a situation.

It is also well recognized that women's condition is equally, if not even more critically, affected by such factors as health, education, mobility, institutional participation and so on. Thus the report also touches these aspects of rural women's life and tries to indicate statistical sources and gaps in these areas.

Children and the aged get far less attention than female adults throughout the report. This is because there are no systematic surveys of these two sections of the population. Some data indicators, however, can be derived from social welfare and health programmes designed for these groups and these have been included in the text.

Quantification of the situation of women and children is not as straightforward or even as satisfying as similar exercises, say, for men. Every number revealed conceals some significant reality. Whether they relate to work loads and calorie-equivalents, work values and wages, work areas and definitional bounds, work types and classification systems, work patterns and the measurement criteria, the numbers are based on perceptions rather than knowledge or understanding of female roles, specially the roles of the resourceless, labouring females.

Hence it is necessary to disentangle the data and go beyond the numbers derived from these biased norms and ratios prior to presenting a situational or a trend profile. But not much of this can be done with the already existing data. The inadequacy in design of the data collection process is too deep. The really fruitful task lies in collecting new data which would be relevant to the economic and social behaviour of the people - in this case women, children and aged.

This report reviews the existing data in India, specially the large scale surveys, and presents profiles and issues as they emerge. Having scanned and assessed the existing data, it traces out new perceptions and new facts from indepth micro-studies available in India using pointers derived from studies done in other parts of the world.

The report then attempts to provide some procedures for improving the statistical picture by suggesting new tabulations from existing data and indicating the types of new data that have to be collected and the possible new methodologies. This is the kind of bifurcation of future work that was adopted by the United Nations Statistical Office (UNSO) at a recent expert group meeting.

The large mass of statistics - especially in countries like India which have had long histories in data collection - necessarily inhibits preparation of programmes for more data. The Indian population census was started in 1872. Francis Buchanan Hamilton had

1/ Sen, Amartya. 'Food Battles; Conflicts in the Access to Food', Coromandel Lecture, New Delhi, 13 December 1982.

conducted his famous geographical and statistical survey under the auspices of the East India Company seventy years earlier. In some Indian States, official village records date back to the middle of the nineteenth century.^{1/}

Another fairly serious constraint is imposed by ethical questions posed more recently by feminists.^{2/} How does this data collection provide any new paradigms/new societies? There is a feeling that evaluating existing development with special reference to women, i.e., bringing in gender into the classification, might only endorse the situation^{3/} and unless far greater retrospection is done on what all these statistics are leading to, this kind of advocacy is not worthy of support from women.

Taking note of both these sentiments, the UNSO Expert Group decided to have a preamble which states very clearly that the purpose of the new exercises is to move towards equality.^{4/} Hence the focus should be to illuminate the condition of women, children and aged amongst the poor and provide statistical frames which will help to analyse the reasons for their situation; as well as to identify the means through which change can be made.

The deliberations and the documents sponsored by the United Nations thus 'focus on indicators relevant to major social and economic issues and women's role in development. They emphasize the fundamental importance of distributive justice and of economic, social and political autonomy for women in both developed and developing countries.'^{5/}

In this context, identification of data gaps implies prior conceptualization of the types of information that we expect from the data systems. Statistical data here are primarily viewed as indicators which may be put to a variety of uses. One such use is to describe accurately the socio-economic characteristics of a segment of population or sector of the economy at a point of time or through time, often with the basic purpose of highlighting the special features or problems found in such segments or sectors. Secondly, indicators also play an important role in assessing the impact of overall economic development or of specific development/welfare programmes in different spheres of the economy.

With this perspective in mind, the exercise in this report will be bound by two banks - one: the focus on critical populations; the other: the kinds of policy issues for these populations that seem to suggest themselves from the data.

It is clear that women, children and the aged are participating in agriculture, yet are not sufficiently visible in the statistics. It is also clear that they are vulnerable, and susceptible to change. It also appears that often this change is negative in the case of the resourceless.

-
- 1/ Hamilton, Francis Buchanan. Geographical Statistical and Historical Description of the District or Zila of Dinajpur in the Province or Suba of Bengal, Calcutta 1833; T.G. Kessinger, Vilayatpur, 1948-1968: Social and Economic Change in a North Indian Village, University of California Press, 1974.
 - 2/ Regional Workshop of Social Scientists and Social Workers convened by the Institute of Social Studies Trust, Bangalore, 28-29 October 1983. Mimeographed report is available at Institute of Social Studies Trust, New Delhi.
 - 3/ Jain, Devaki. 'Development As If Women Mattered or Can Women Build a New Paradigm'. Lecture delivered at OECD/DAE Meeting, Paris, 26 January 1983.
 - 4/ Meeting of Expert Group on Improving Statistics and Indicators on the Situation of Women, New York, 11-15 April 1983. (Convened by the United Nations Statistical Office, Department of International Economic and Social Affairs, in cooperation with the United Nations International Research and Training Institute for the Advancement of Women).
 - 5/ 'Compiling Social Indicators on the Situation of Women' Studies in Methods, Series F No. 32 (final draft), United Nations, New York, 1983.

Yet there are, especially in India, innumerable programmes for the poor and the rural population both in the government and in the non-governmental sector. There are national policy statements especially in relation to use of land whether for trees, food crops or crops for industry.

The issues that have emerged from reviewing the data, in relation to these policies and programmes, will thus form the other bank and the identification of data gaps and needs will flow between these two banks.

In all this exercise, however, the paper claims only to be a first step. There would not only be material that might have been overlooked but certainly in the last chapter - on the work ahead - far greater effort in both review as well as thought would be required to prepare an actual guideline, or modules for use by the household survey, the rural labour enquiry, the agricultural census and other such large scale surveys to be undertaken by the various countries. This would be the task of a series of expert consultations, based on reports such as this against the formats currently adopted by these systems of periodical data collection.^{1/}

This report relates mainly to the three major official sources on statistics relating to agriculture: (I) Census, (II) National Sample Survey (NSS) and (III) Agricultural/-Rural Labour Enquiries, briefly described in the following section.

Since available data are not always disaggregated by occupation or household type, data on rural populations have been presented as proxy.

The report also refers to a few other national level sources, major sources of statistics in their own right, but not equally germane to the purposes of this report.

A number of micro-studies also offer important insights into the condition of women and children in agriculture. Some of these have been duly acknowledged in the text but no attempts have been made to scan the entire corpus of relevant micro-studies. This is only a beginning in that direction.

The principal researcher for this report has been Dr. Mukul Mukherjee. She has been assisted by Vatsala Ramji and A. Suchitra, both research associates of the Institute. Dr. K.C. Seal, Director-General of the Central Statistical Organization, Government of India, has been a constant guide. Dr. J. Krishnamurty of the Delhi School of Economics read the manuscript and gave valuable suggestions. Dr. Raj Krishna, Professor at the Delhi School of Economics, reviewed the report in detail, suggested not only restructuring, but also formats for data presentation. We are deeply grateful to these three experts for their invaluable help.

^{1/} Department of International Economic and Social Affairs, Statistical Office and International Research and Training Institute for the Advancement of Women. 'Studies on Methods: Compiling Social Indicators on the Situation of Women', Serial F No. 32, United Nations, New York, 1983.

I. MAJOR DATA SOURCES

Census

The Indian population census celebrated its centenary eleven years ago. This decennial enumeration (conducted by the Registrar General and Census Commissioner of India usually in February-March) provides universal coverage as well as considerable geographical disaggregation. Most data are available at the district level and some even at the town or village level.

Besides the main census report which enumerates the population by standard classificatory variables such as age, sex, marital status, education, residence, occupation, language, etc., there are census monographs on special subjects of demographic interest such as vital statistics, sex ratio, scheduled castes and tribes, etc.^{1/} Some of the tabulations, however, are based on sample populations.

Till 1951, the decennial population censuses in India were the only source of data on the size and socio-economic characteristics of India's population. Despite problems of comparability, census data are still very widely used for their accessibility and for their usefulness in building up time series on different aspects of the population.

N.S.S.

Sample surveys of households now serve as an ubiquitous tool of data collection all over the world. The Indian National Sample Survey (under the National Sample Survey Organisation, [NSSO] Government of India) was initiated in 1950 and has since conducted 38 multipurpose surveys (Founds) for meeting the demand for up-to-date information. The NSS generates a wider variety of data and at more frequent intervals than the census but these are not disaggregated below the state or the zonal level. A large number of cross-classified characteristics are estimated including age, sex, residence, education, expenditure, group, household land possessed, household type, activity and employment status, industry and occupation particulars, etc.

The NSS 25th Round (1970-71), surveying weaker sections of the rural population, contains data specific to small cultivator and agricultural labour households.

The NSS employs a stratified two-stage sampling design, with villages in rural areas and urban blocks in urban areas as the first stage units and households or holdings as the second stage units.^{2/}

The subject and period of enquiry in different NSS rounds are presented in Annex I.

Agricultural/Rural Labour Enquiries

The Government of India (GOI) has so far conducted four special household surveys focussing on agricultural/rural labour. These provide extensive data on household size, agricultural activity, duration of employment, per capita expenditure/consumption, etc., at the state and zone level. The first two enquiries, known as the first and second Agricultural Labour Enquiry, were conducted during 1950-51 and 1956-57 (ALE I and ALE II) and were followed by the first and second Rural Labour Enquiries during 1964-65 and 1974-75 (RLE I and RLE II). RLE II covers four specific areas: (i) indebtedness; (ii) wages and earnings; (iii) employment and unemployment and (iv) household income and expenditure.

1/ See Natarajan, D. Indian Census through a Hundred Years, Census of India (COI), 1971, Census Centenary Monograph No. 2.

2/ For detailed discussion see 'Development of the Indian National Sample Survey During its First Thirty-Two Rounds (1950-1977)'. Sarvekshana, Vol. I, No. 3, January 1978.

An agricultural labour household is defined by the RLE as a household 'deriving major portion of income during the 365 days preceding enquiry from wage-paid manual labour in Agriculture'.^{1/}

An agricultural labourer is defined as a person who follows one or more of the following occupations offering his labour on a reciprocal basis or against payment in cash or in kind: farming, dairy farming, production and cultivation of horticultural commodities, raising of livestock, bee keeping, poultry farming and any practice performed on a farm as incidental to or in conjunction with farm operations.^{2/}

1/ GOI, Ministry of Labour Bureau, Rural Labour Enquiry 1974-75; Final Report on Employment and Unemployment of Rural Labour Households (Part I), Chapter I.

2/ Ibid.

II. INVENTORY OF DATA AND SELECTED TABLES

A. Economic Indicators

It is now generally recognized that the national data collection systems often fail to measure adequately rural women's work participation. The main factors behind this are by now fairly well-known: adoption of stringent conceptual criteria to identify participants in agriculture; inadequate perception of women's roles both by men and women respondents due to cultural conditioning, seasonality of agricultural activities in which women usually specialize and the frequent isolation of such activities from market transactions. Data on women's work in agriculture therefore have to be viewed with these caveats.

Work force participation rates: census data

Work force participation rates of men and women as reflected in the worker population ratios are important indicators of the status of men and women and, when viewed as time series, of socio-economic change. For rural and urban residents these are available both in census and NSS tabulations.

Table 1 presents work participation rates from 1971 and 1981 censuses, including those for children (0-14 years) and the aged (60 years and above). For rural women, the highest rates (28-29 percent) are found in the age group 30-49. The transition from childhood (0-14) to young adulthood (15-29) has a sharp impact on both male and female participation rates. The difference between rural and urban work participation rates is, however, more striking in the case of women, the urban rate remaining below 16 percent in 1981.

There is of course considerable regional variation in work participation rates. Scholars have examined these differences but have found no satisfactory explanation.^{1/}

It is important to note that census data pose problems of comparability because the reference period and the procedure for counting workers vary from one census to another.^{2/} In the 1961 census, persons were classified as workers by asking whether they were working as cultivator, agricultural labour, at household industry or doing any other work. The worker status was assigned if a person was working regularly for only one hour a day during the greater part of the working season in the case of seasonal work like agriculture. In the 1971 census, a sorting question divided the population into two broad streams of workers and non-workers, the classification being based on 'the type of main activity that a person returns himself as engaged in mostly'. The 1981 census also begins with a sorting question, 'Worked any time at all last year?' Having thus identified all workers, a distinction is then made between (i) main workers who have worked for six months or more during the preceding year; and (ii) marginal workers who have worked for any period less than six months. Thus in a sense, the total workers of 1961 may be comparable to the combined categories of main and marginal workers of the 1981 census and the main workers of the 1971 census may also be comparable to those of the 1981 census.^{3/}

1/ For example, Leela Gulati has shown that inter-state variations in female work participation rates in 1971 are not significantly linked to male participation rates, per capita income levels, literacy levels, scheduled caste/tribe components in population or sex ratios. (Gulati, Leela. 'Female Work Participation: A Study of Inter-state Differences', Economic and Political Weekly, (EPW), 11 January 1975.

2/ For detailed discussion of such differences see Bose, Ashish et al. (eds), Population Statistics in India, New Delhi 1978 (reprint); Census of India (COI), 1981 Series I India, Paper 3 of 1981, Chapter I. See also Annex II on 'Economic Questions in the Census-A comparative statement'.

3/ For adjusted and comparable estimates of 1961 and 1971 work participation rates based on a special sample survey undertaken by the Census authorities soon after the 1971 census, see COI 1971, Miscellaneous Studies, Paper 1 of 1974 (Report on Resurvey on Economic Questions - Some Results), Tables 5 & 7.

Table 1: Work participation rates (%) for main workers by age and sex, 1971 and 1981

Age Group	Total Rural Urban	Males		Females	
		1971	1981	1971	1981
1	2	3	4	5	6
All ages	Total	52.61	51.62	12.06	13.99
	Rural	53.62	52.62	13.36	16.00
	Urban	48.80	48.54	6.65	7.28
0-14	Total	6.65	5.46	2.63	2.95
	Rural	7.56	6.30	3.05	3.53
	Urban	2.75	2.46	0.82	0.88
15-19	Total	55.32	51.15	15.78	18.48
	Rural	62.31	58.19	18.88	22.77
	Urban	28.32	31.54	5.51	6.19
20-24	Total	81.43	76.91	18.12	20.32
	Rural	86.56	82.71	20.58	24.29
	Urban	67.49	63.35	9.54	9.25
25-29	Total	94.27	91.08	20.01	22.52
	Rural	95.45	92.79	22.16	26.14
	Urban	90.54	87.78	11.68	12.17
30-39	Total	97.12	96.22	21.70	25.31
	Rural	97.61	96.71	23.78	28.45
	Urban	95.45	94.93	13.11	15.14
40-49	Total	97.08	96.81	22.63	25.97
	Rural	97.62	97.25	24.43	28.90
	Urban	95.15	95.49	14.53	15.34
50-59	Total	94.03	92.43	19.64	21.56
	Rural	95.50	94.08	21.08	23.94
	Urban	87.86	86.86	12.71	12.42
60+	Total	73.82	63.71	10.64	10.19
	Rural	77.52	67.59	11.49	11.29
	Urban	55.35	47.49	6.46	5.75

Source: COI 1981, Paper - 2 of 1983, Table 15.

Analysts agree that compared to those of 1961 and 1981, the 1971 census uses a more restrictive classification recording as workers only those whose main activity is work and in the process excluding a sizeable number of women workers.^{1/} Hence the intercensal variations in participation rates for rural women (preponderantly agricultural workers) are at least partly attributable to the criteria used for segregating workers and non-workers.

1/ See Sinha, N. '1981 Census Economic Data: A Note', Economic and Political Weekly, 6 February 1982.

Labour force participation rates: NSS data

In addition to the census, the National Sample Surveys collect data on different aspects of labour force participation^{1/} including employment, unemployment and underemployment, classified by a number of variables^{2/} such as sex, education, residence, marital status, duration of unemployment, etc.^{2/}

Initially adopting the 'gainful worker' or 'usual status' approach for investigation of economic activity, the NSS uses the labour force or 'current status' concept from its 11th Round (1956-57).^{3/} The NSS data were reviewed by a Committee of Experts on Unemployment and an alternative measure of labour force utilization was evolved on the basis of its recommendations and later incorporated in NSS estimates. Basically the innovation consists in adopting as the unit of analysis or aggregation, not an individual, but a unit of labour time, i.e., a day; unemployment is expressed as a percentage of total number of days on which the respondents report themselves to be in the labour force (employed/unemployed) during the period of investigation.^{4/} The new approach thus provides estimates not only for current employment and unemployment but also current (visible) underemployment. NSS Report No. 298 (32nd round) clarifies the terminology used in the latest NSS tabulations.^{5/}

The two major National Sample Surveys on employment/unemployment, the 27th Round (1972-73) and 32nd Round (1977-78), collected information on the activity pattern of an individual for each day of the reference week. Labour force data from the two surveys are presented under three heads which also constitute three alternative measures of employment/unemployment: (a) the 'usual status' approach which takes into consideration the activity (or inactivity) on which a person spent his/her major time of the preceding 365 days prior to date of survey^{6/}; (b) the 'current weekly status' approach under which a person 'had to be initially assigned a unique activity status with reference to a period of 7 days preceding the data of survey - for persons pursuing more than one activity classification under a unique status was made by adopting a priority-cum-major time rule'^{7/}; and (c) the 'current day status' approach according to which

each person was assigned one single activity status, or two at the most, on each day of the reference week depending on whether he had been pursuing one or more than one activity on each of the seven days of the reference week. The unit of classification was thus half day according to 'current day status' approach. In assigning the activity status on a day, a person was considered 'working' (or employed) for

-
- 1/ The labour force here is the sum of the employed (workers/work force) and unemployed, the latter usually defined as those non-workers who are seeking and/or available for work. The remaining non-workers (those not seeking/available for work) are placed outside the labour force.
 - 2/ For analysis of relevant data from NSS Rounds 9 to 21 (1955 to 1967), see GOI Planning Commission, Report of the Committee of Experts on Unemployment Estimates (1970), Appendix II and V and Annexes I and II.
 - 3/ The 'usual status' concept takes into consideration the dominant pattern of activity of a person for a relatively long period of time, usually a year. Under the 'current status' approach the reference period for determining the activity status is much shorter, usually a week or a fortnight, facilitating better recall and more accurate reporting of periodic fluctuations in employment.
 - 4/ GOI. Planning Commission Report of the Committee of Experts on Unemployment Estimates (1970), p. 17.
 - 5/ NSS tabulations usually exclude the age-group 0-4. In census documents participation rates are related to total population.
 - 6/ NSS Report No. 298 (32nd Round, 1977-78), p. 4.
 - 7/ Ibid. p. 5.

the entire day if he had worked four hours or more on that day. But if he worked one hour or more but less than four hours, he was considered 'working' (or employed) for half day and 'seeking/available for work' (or unemployed) or 'not available for work' (or not in labour force) for the other half day depending on whether he was seeking/available for work or not on the day. The aggregate of persons classified under the different activity categories for all seven days of the week divided by seven would give the distribution of persons (strictly person day) by activity category on an average day over the survey period of one year.^{1/}

Table 2 gives labour force participation rates for rural population of different age groups including children (5-14) and aged (60 and above). The variation in these rates for the age-groups 15-29 and 30-44 is more pronounced in the case of women pointing to the intermittent nature of their participation.

Table 2: Labour force participation rates for rural population by age and sex (%) under usual status (US), current weekly status (CWS) and current day status (CDS): MSS 32nd Round (1977-78)

Age group	Males			Females		
	US	CWS	CDS	US	CWS	CDS
(1)	(2)	(3)	(4)	(5)	(6)	(7)
5-14	13.1	13.2	13.0	9.1	8.9	8.3
15-29	86.4	84.7	82.7	39.7	35.1	31.9
30-44	99.0	97.0	94.5	49.2	45.7	40.1
45-59	95.9	93.1	90.7	41.6	39.3	34.7
60 and above	64.6	62.2	60.5	16.0	14.9	13.2
Total	63.7	62.4	60.9	30.5	28.1	24.9

Source: NSS Report No. 298, Table 4.

NSS 32nd Round recorded 136.7 million or 62 rural males and 60.6 million or 29 percent rural females as employed according to usual status. Though it reported a substantial decline in rural women's participation according to usual status compared to the 37th Round, this negative change can be traced to differing perceptions about women's work inherent in the two rounds. It is likely that a section of women workers who were gainfully active, even though marginally, and counted as workers in the 27th Round were put under ^{2/}a new code (code 93) in the 32nd Round and thus placed in the non-worker category. If allowance is made for these misclassified women, then the 32nd Round participation rates for rural women approximate those computed for the 27th Round or for the 1961 Census as shown in Table 3.

^{1/} NSS Report No. 298, p. 6f.

^{2/} In addition to code 92 used for non-workers in the 27th Round ('attached to the domestic duties only'), code 93 added a new category in the 32nd Round: 'attended domestic duties and was also engaged in free collection of goods (vegetables, roots, firewood, cattle feed etc.)'. (GOI, NSSO. Employment Unemployment Situation in India During the Seventies: A Comparative Study of the Results of the NSS 27th and 32nd Round Survey, p. 4.

Table 3: Work participation rates (%) in rural India: NSS 27th Round, NSS 32nd Round and 1961 census (usual status)

(1)	Males (2)	Females (3)
Census 1961	58.3	31.4
NSS 27th Round (1972-73)	54.8	32.5
NSS 32nd Round (1977-78)	53.0	24.5
NSS 32nd Round Adjusted	54.9	32.7

Source: COI 1981, Series-I, Paper-3 of 1983; GOI, NSSO, Employment Unemployment Situation in India During the Seventies: A Comparative Study of the Results of the NSS 27th and 32nd Round Survey, p.3 ff.

The main conclusion that emerges from the available macro-data is that the overall work participation rates of rural women in India did not suffer a perceptible decline at least during the decade 1971-1981.

Occupational distribution of workers

Table 4 gives the size of the population engaged in agriculture (Industrial Category I and II) and allied activities (Industrial Category III) as compared to other livelihoods. Table 5 shows the percentage distribution of the working population and Table 6 shows the distribution of child workers by broad activity categories.

It is clear that an overwhelming proportion of child, aged and women workers in India are dependent on agriculture. While male cultivators and agricultural labourers number about 77.6 million and 34.7 million respectively according to the 1981 census, there are about 15 million women cultivators as against 21 million agricultural labourers. About 46 percent of women workers toil as agricultural labourers and this proportion is strikingly high (70%) in the case of women workers belonging to scheduled castes.

Indeed a disturbing trend in women's participation in agriculture during the last decade is their progressive shift from the cultivator to the labourer status. The rise in the rank of women agricultural labourers - from less than one third of the female work force in 1951 to more than half in 1971 - points to shrinking employment opportunities in family farms and growing pressure on women to resort to wage labour often under exploitative conditions. A recent study noted a rise in the incidence of agricultural labourers in rural female population in at least 91 districts of India during 1961-71.^{1/}

Exploring the relationship between rural poverty and high incidence of female agricultural labour, the same study brings into focus the regional variations in the sex ratio of agricultural labour that appear to be linked to the regional cropping pattern, which is used as an indicator of poverty.

^{1/} Sen, Gita. 'Inter-regional Aspects of the Incidence of Women Agricultural Labourers (district level) Employment and Earnings. Paper presented at Workshop on Women and Poverty, Indian Council of Social Science Research (Eastern Regional Centre) and Centre for the Study of Social Sciences, Calcutta, 17-18 March 1983.

Table 4: Distribution and sex ratio of main workers, marginal workers and non-workers by broad industrial categories, 1981

Industrial Category	Males (thou- sand)	Workers & non-workers as % of male population	Female (thou- sands)	Workers & non-workers as % of female population	Female per 1000 males
(1)	(2)	(3)	(4)	(5)	(6)
I. Cultivators	77 591	22.6	14 932	4.7	192
II. Agricultural Labourers	34 732	10.1	20 768	6.5	598
III. Livestock, forestry, fishing, hunting, plantations, orchards and allied categories	4 160	1.2	832	0.3	200
IV. Mining and quarrying	1 101	0.3	163	0.1	148
V. Manufacturing, pro- cessing, servicing & repairs:					
a) household industry	5 647	1.6	2 064	0.6	366
b) non-household industry	15 834	4.6	1 598	0.5	101
VI. Construction	3 207	0.9	358	0.1	112
VII. Trade & commerce	13 012	3.8	917	0.3	71
VIII. Transport, storage & communication	5 899	1.7	170	0.1	29
IX. Other services	16 360	4.8	3 170	1.0	194
Total (main) workers	177 543	51.6	44 972	14.0	253
Marginal	3 537	1.0	18 552	5.8	5 245
Non-workers	162 850	47.3	257 833	80.2	1 584
Total population	343 930	-	321 357	-	934

Note: India excludes Assam.

Source: COI, Paper 2 of 1983, Table 17 and 18.

Table 5: Percentage distribution of main workers, marginal workers and total workers (main plus marginal) by industrial categories, 1981

Industrial Category (1)	Main workers		Marginal workers		Total workers	
	Male (2)	Female (3)	Male (4)	Female (5)	Male (6)	Female (7)
I. Cultivators	43.7	33.2	41.7	47.9	43.7	37.5
II. Agricultural labourers	19.6	46.2	33.2	41.4	19.8	44.8
III. Livestock, forestry, fishing, hunting, plantations, orchards and allied categories	2.3	1.9	3.7	1.6	2.4	1.8
IV. Mining and quarrying	0.6	0.4	0.3	0.1	0.6	0.3
V. Manufacturing, processing, servicing and repairs:						
a) Household industry	3.2	4.6	3.0	4.1	3.2	4.4
b) Non-household industry	8.9	3.6	5.3	2.2	8.9	3.1
VI. Construction	1.8	0.8	2.0	0.4	1.8	0.7
VII. Trade & commerce	7.3	2.0	4.9	1.0	7.3	1.8
VIII. Transport, storage & communications	3.3	0.4	1.7	0.1	3.3	0.3
IX. Other services	9.2	7.1	4.2	1.3	9.2	5.4
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: COI 1981, Series 1, Paper 2 of 1983, Table 16.

Table 6: Percentage distribution of child workers by activity, sex and residence, 1971 Census

Activity (1)	Total (2)	Male (3)	Female (4)	Rural (5)	Urban (6)
Cultivators	36.05	39.64	26.15	38.41	5.78
Livestock, forestry, fishing, plantation	8.25	9.43	4.99	8.58	4.82
Agricultural labourers	42.70	38.10	55.44	44.89	14.56
Total child workers in primary sector	87.00	87.17	86.58	91.88	24.36
Secondary sector	6.87	6.30	8.40	4.58	36.22
Tertiary sector	6.13	6.53	5.02	3.54	39.42

Source: Seal, K.C. 'Children in Employment'. GOI, Ministry of Social Welfare, Profile of the Child in India, New Delhi, 1980.

Household productive activity

It is now largely accepted that many types of household activities, even though not recognized formally as gainful, are in fact economically productive and contribute substantially to the economic welfare of the household.^{1/} To quote a simple but sensible definition, 'Household production consists of those unpaid activities which are carried on by and for the members (of the household)' and 'if an activity is of such a character that it might be delegated to a paid worker, then that activity shall be deemed productive'.^{2/}

Poor rural women (typically from small farmer or agricultural labour households) clearly bear a disproportionately large share of the family's work burden. Apart from engaging in activities formally recognized as productive work,^{3/} they also have to provide essential resources for family survival such as fuel and water.^{3/}

This aspect of women's work is perhaps best captured in household surveys concentrating on time allocation. A number of such studies are now available for the less developed countries.^{4/} For useful data on time allocation patterns for men and women in Indian agricultural households, we may refer to an intensive household survey carried out in selected districts of West Bengal and Rajasthan.^{5/}

An interesting finding of the study is that about one third of the women who reported themselves as non-workers when the standard employment/unemployment questionnaire was addressed to them, were actually found to be spending a few hours each day on productive activities (such as picking groundnut, cutting grass, winnowing and threshing crops, etc.) when their time disposition was analysed.

Another micro-study conducted in Betul district of Madhya Pradesh shows time disposition patterns in tribal households combining agriculture with forestry.^{6/}

A time disposition micro-survey focussing on rural children reports that 'the roles of the majority of Indian children, specially of the underprivileged classes are not segregated from the roles of adults in their families'.^{7/} Children may have to withdraw from school and leisure activities to participate in resource earning activities and domestic chores.

Clearly, if all varieties of productive activity pursued by women and children are brought within the purview of national accounts, their work participation rates as well as their contribution to GDP will show a marked rise and move closer to reality.

1/ Goldschmidt-Clermont, Luisella. Unpaid Work in the Household, ILO, Geneva, 1982.

2/ Reid, M.G. Economics of Household Production, New York, 1934, p. 11.

3/ Agarwal, Bina. Third World Women: Agricultural Modernisation and Pointers from the Literature and an Empirical Analysis, (World Employment Programme Research Working Papers) ILO, Geneva, 1981.

4/ e.g. Caine, M. 'Class, Patriarchy and the Structure of Women's Work in Rural Bangladesh'. Centre for Policy Studies Working Paper 43, Population Council, New York, 1979.

5/ Jain, Devaki & Chand, Malini. 'Report on a Time Allocation Study: Its Methodological Implications'. Paper presented at Technical Seminar on Women's Work and Employment, 9-11 April 1982, New Delhi, see tables 3.2 and 3.2A.

6/ Chand, Malini & Bezbourah, Rekha. 'Employment Opportunities for Women in Forestry'. Paper presented at Seminar on the Role of Women in Community Forestry, 4-9 December 1980, Dehradun.

7/ Institute of Social Studies Trust. 'Rural Children at Work'. New Delhi 1979 (mimeo), p. 21.

NSS 32nd Round sheds light on some of these special types of activity by introducing a new classificatory code - code 93 - under which probing questions were put to women engaged in household duties conventionally excluded from the gainful worker category.

Table 7 shows that more than 50 percent of rural women classified as non-workers according to usual status in NSS 32nd Round - the majority necessarily from agriculture-based households - were also participating in activities enhancing economic welfare.

Table 7: Percentage of rural women engaged in domestic work pursuing specified activities conferring economic benefits to the household

S. No.	Type of activity (1)	Percentage of women engaged in housework	
		Rural (2)	Urban (3)
1.	Free collection of fish, small games etc.	15.5	1.7
2.	Free collection of firewood, cow dung, etc.	35.7	6.6
3.	Free collection of any of the above goods.	37.1	6.8
4.	Maintenance of kitchen garden.	11.7	2.9
5.	Work in household poultry.	27.5	6.6
6.	Work in kitchen garden or household poultry.	31.6	8.4
7.	Sewing, tailoring, weaving, etc.	9.3	14.1
8.	Tutoring of own children.	1.2	4.6
9.	Bringing water from other villages.	3.4	-
10.	Any of the specified work above.	54.2	26.1

Source: NSS Report No. 298, Table 26.

Employment in agriculture

NSS Data have been utilized in a few studies to show the distribution of men, women and child agricultural workers by employment status, i.e. whether self-employed (as working in own right or working as helper) or employed as wage/salary earners.^{1/}

The four official enquiries focussing on agricultural labour (ALE I, ALE II, RLE I and RLE II) also provide estimates of working days distributed between wage employment and self-employment and thus offer an indirect measure of underemployment among the households surveyed. Table 8 summarizes comparative data from the two Rural Labour Enquiries. Table 9 shows inter-regional and inter-temporal changes in the annual

1/ e.g. Shrinivasan, K.N. 'Employment and Unemployment: An Assessment of Two National Sample Surveys', Economic and Political Weekly, 18 September 1982. Bhattacharya, Sudhir. 'Women's Activities in Rural India: a study based on NSS 32nd Round (1977-78), Survey Results on Employment and Unemployment', (Part I: Study Report) NSSO, GOI, 1981.

duration of wage employment of women agricultural labourers. Table 10 disaggregates the total wage-employed days of men, women and child agricultural labourers by agricultural tasks.^{1/} A declining employment trend is noticeable during 1965-75. In this decade, the annual duration of wage employment of women agricultural labourers fell from 172 days to 147 days or by about 14 percent.

Table 8: Days employed per year for persons in rural labour households working as agricultural labourer, 1974-75

	Wage Employment			Self- Employment		
	1964-65	1974-75	% change 1964-65 1974-75	1964-65	1974-74	% change 1964-65 1975-75
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Men	245	214	-12.7	25	28	12.0
Women	172	147	-14.5	18	24	33.3
Children	223	193	-12.4	22	23	4.6

Source: RLE II, Final Report on Employment and Unemployment of Rural Labour Households (Part I) Table 3-1.1.

Estimate of unemployment: census and NSS data

The recent census and NSS reports tabulate data on the unemployed by sex, broad age groups, rural/urban residence and educational levels. The usual problems of comparability occur not only between the census and the contemporaneous NSS estimates but also between successive censuses as noted earlier. Pravin Visaria presents a detailed analysis of the data on employment and unemployment as available from NSS reports up to the 21st Round (1966-67) and compares them with census data.^{2/}

The 1961 census classified men and women non-workers into eight categories, two of which indicate the incidence of unemployment ('a person who has not been employed before but is seeking employment' and 'a person employed before but now out of employment and seeking employment'). The 1971 census also did not have a specific category for the unemployed but their number can be inferred from the 'other non-workers', one of the eight categories classifying total non-workers. According to Raj Krishna's estimates, 1.75 million men and 0.38 million women were chronically unemployed in rural India in 1971.^{3/}

1/ Official surveys have also recorded the distribution of daily labour time of men, women and children engaged in agriculture disaggregated by agricultural tasks. Besides the Agricultural Labour Enquiries, one of the most detailed and disaggregated analysis of labour time distribution of men, women and children engaged in agriculture is to be found in the district level Intensive Type Studies (GOI, Labour Bureau, Report on Intensive Type Studies on Rural Labour in India (1967-70), Chandigarh. See General Report (All India) Table 4.7 showing average number of daily hours (wage paid & other than wage paid) spent by men, women and children, in various agricultural activities and dairy farming, poultry farming, livestock rearing, etc.

2/ Visaria, Pravin. 'Employment and Unemployment in India: A Review of Selected Statistics'. GOI, Planning Commission, Report of the Committee of Experts on Unemployment Estimates, 1970, Appendix II.

3/ Krishna, Raj. World Bank Staff Working Paper No. 234, April 1976, Table 9.

Table 9: Number of days of wage employment per year of usually occupied women agricultural labourers, 1949-50 - 1974-75

		<u>Employment: Average Number of days in a year</u>			
		Agricultural Labour		Rural Labour	
S. No.	State	Enquiry		Enquiry	
		I. 1950-51	II. 1956-57	I. 1964-65	II. 1974-75
	(1)	(2)	(3)	(4)	(5)
1.	Uttar Pradesh	143	104	116	136
2.	Madhya Pradesh	124	145	168	146
3.	Bihar	111	124	133	121
4.	West Bengal	179	168	235	157
5.	Orissa	150	91	173	126
6.	Assam	152	230	228	279
7.	Manipur	-	-	104	237
8.	Tripura	-	-	156	213
9.	Meghalaya	-	-	-	227
10.	Andhra Pradesh	136	148	181	148
11.	Tamil Nadu	155	142	148	125
12.	Kerala	143	130	157	116
13.	Gujarat	132	168	248	171
14.	Maharashtra	-	-	191	180
15.	Karnataka	130	157	202	191
16.	Rajasthan	126	139	159	171
17.	Punjab	73	158	180	162
18.	Haryana	-	-	-	167
19.	Delhi	-	-	285	-
20.	Himachal Pradesh	-	-	-	161
21.	Jammu and Kashmir	-	-	365	179
22.	All India	134	141	172	149

Note: (i) For 1950-51 and 1956-57 All India includes Jammu and Kashmir; Assam includes Manipur, Tripura and Meghalaya and Punjab and Haryana, Himachal Pradesh and Delhi are jointly given under Punjab-Haryana. For 1964-65 Tripura and Meghalaya are treated as a single unit. Delhi and Himachal Pradesh are combined for 1964-65 and 1974-75.

(ii) Unlike RLE I, RLE II classified rural labour households into those with and without land. Since these two types of households comprise roughly 50% each of total rural labour households in 1974-75, column 5 gives a simple average of the two sets of figures relating to employment.

Sources: (i) Rural Labour Enquiry 1964-65, Final Report (All India) Labour Bureau, Ministry of Labour, GOI, 1979, Table 8.4.

(ii) Rural Labour Enquiry 1974-75, Final Report on Employment and Unemployment of Rural Labour Households, Part II Supplement Labour Bureau, Ministry of Labour, GOI Table 3.2 (i) (b) p.478.

Table 10: Number of days of wage employment per year for men, women and children belonging to agricultural labour households distributed by agricultural operations, 1964-65 and 1974-75

Agricultural Operations (1)	1964-65		1974-75	
	All households (2)	With land (3)	Without land (4)	All households (5)
<u>Men</u>				
Ploughing	41	39	39	39
Sowing	5	55	7	6
Transplanting	2	6	4	5
Weeding	14	21	25	23
Harvesting	24	37	55	44
Others	87	79	88	83
All agricultural operations	198	187	218	200
<u>Women</u>				
Ploughing	7	1	1	1
Sowing	4	3	3	3
Transplanting	4	5	3	4
Weeding	18	28	27	27
Harvesting	28	45	69	55
Others	49	29	42	55
All agricultural operations	127	111	145	124
<u>Children</u>				
Ploughing	16	5	5	5
Sowing	5	2	-	1
Transplanting	4	6	2	4
Weeding	16	23	21	23
Harvesting	19	39	47	42
Others	90	67	113	85
All agricultural operations	170	142	188	160

Source: Final Report on Employment and Unemployment of Rural Labour Households, Part II (Supplement), Table 3.4 (a) 1.1:484.

The 1981 census divides the population into three mutually exclusive segments: main workers, marginal workers and non-workers. The latter includes those in the labour force who are unemployed. Detailed tabulations for the last category are yet to be published.

As noted above, the two quinquennial National Sample Surveys on employment/unemployment present three sets of estimates for unemployment: (a) the number of persons usually or chronically unemployed (usual status); (b) the number of persons without work but seeking/available for work in an average week (current weekly status), and the number of person days spent by the labour force without work and seeking/available for work during an average week (current day status).

Table 11 gives estimates of unemployment in India and the States based on results of the NSS 32nd Round. The figures for 'usually unemployed' do not adequately capture the magnitude of the population without work because only a small number of persons remain unemployed throughout the year. Table 11 shows that as compared to 'usual status' rates, the 'weekly' and the 'person days' unemployment rates (with total labour force as base) are higher for all population groups and specially high for rural women.

Table 11: Incidence of unemployment by sex (% of total labour force) in rural India and States/Union Territories, 1977-78

State/Union Territory (1)	male			female		
	usual status (2)	current weekly status (3)	current day status (4)	usual status (5)	current weekly status (6)	current day status (7)
All India	2.22	3.57	7.12	5.52	4.13	9.18
Andhra Pradesh	2.05	4.06	8.24	5.22	8.26	14.33
Assam	1.57	1.53	1.56	5.83	1.13	1.35
Bihar	2.09	4.10	7.64	3.98	4.37	9.23
Gujarat	1.19	2.57	6.18	1.74	1.70	5.61
Harayana	3.61	4.44	6.89	20.79	1.46	3.17
Himachal Pradesh	1.80	1.68	2.48	0.61	0.04	0.18
Jammu and Kashmir	1.55	4.08	6.13	5.78	1.60	2.25
Karnataka	1.38	2.82	7.66	4.13	4.68	11.54
Kerala	13.55	12.25	25.04	29.18	12.84	27.41
Madhya Pradesh	0.28	1.41	2.44	0.75	1.83	3.39
Maharashtra	1.41	2.92	5.85	1.89	4.06	9.31
Manipur	0.86	2.36	2.94	0.58	0.16	0.18
Meghalaya	0.21	2.21	0.30	0.15	-	0.05
Nagaland	-	-	-	-	-	-
Orissa	2.02	3.80	7.49	4.43	5.57	9.67
Punjab	1.80	2.59	5.21	14.30	1.04	2.11
Rajasthan	0.64	2.19	3.09	2.89	1.39	1.96
Tamil Nadu	2.78	5.87	14.93	6.27	5.28	17.11
Tripura	1.39	1.69	4.15	4.11	1.56	3.64
Uttar Pradesh	1.62	2.46	3.98	3.20	1.24	2.98
West Bengal	3.53	4.46	9.32	23.86	3.69	9.91
Arunachal Pradesh	0.14	0.07	0.38	0.07	-	0.25
Chandigarh	-	-	-	-	-	-
Delhi	6.54	8.13	8.69	4.63	20.00	26.97
Goa, Daman & Diu	5.74	10.13	14.90	5.19	11.48	14.97
Pondicherry	8.85	10.28	25.87	32.34	7.24	23.77

Source: NSS Report No. 298, Table 14 (R).

Underemployment in rural India

Successive rounds of the NSS have collected information on underemployment through questions on total hours worked by an employed person during the reference week and his/her availability for additional work. Tables 12 and 13 again refer to the NSS 32nd Round to show that in contrast to 5 percent of males in rural areas roughly 20 percent of rural women worked for less than four days a week and while only 10 percent of self-employed women in agriculture are available for additional work, more than 50 percent of women agricultural labourers were in a similar situation.

Under the 32nd Round of the NSS, probing questions addressed to 'persons engaged in domestic duties' revealed that 23 percent of non-working rural women were willing to accept work if work was made available at their residence. Table 14 shows that marked preference was expressed for dairy farming, poultry farming, tailoring, spinning and weaving as prospective work, only about 2 percent of the respondents opting for manufacture of wood, cane or leather products.

Table 12: Percentage distribution of persons classified as employed according to weekly status by number of days of work during the week

Intensity of Work (1)	Rural		Urban	
	Male (2)	Female (3)	Male (4)	Female (5)
Worked on all the 7 days	84.30	63.76	89.51	71.15
Worked for 4 days or more but less than 7 days	10.93	16.84	7.93	13.44
Worked for less than 4 days	4.77	19.40	2.56	15.41
Total workers according to current weekly status	100.00 (132.2)	100.00 (56.6)	100.00 (32.3)	100.00 (7.4)

Note: Figures in parentheses give workers in million.

Source: GOI, National Sample Survey Organization, NSS 32nd Round, Report No. 298.

Table 13: Distribution of persons ('000) categorized as 'working' according to usual status but seeking or available for additional work

Usual activity category	Rural		Urban	
	Male	Female	Male	Female
Self-employed in agriculture	12 439(17.5)	3 034(10.3)	328(16.7)	72(8.7)
Self-employed in non-agriculture	3 089(22.2)	732(15.5)	1 634(14.7)	301(13.3)
Employees in agriculture	1 023(15.3)	106(12.5)	55(16.4)	3(3.7)
Employees in non-agriculture	899(11.0)	211(15.3)	1 457(9.7)	217(9.9)
Casual labour in agriculture	17 517(54.5)	1 296(50.6)	616(58.6)	522(55.0)
Casual labour in non-agriculture	2 419(51.2)	733(38.0)	1 638(51.8)	403(39.2)
Total	37 379(27.3)	16 112(26.6)	5 728(18.0)	1 518(21.0)

Note: Figures in parentheses are percentages to total working in the respective categories.

Source: GOI, National Sample Survey Organization, NSS 32nd Round, Report No. 298, Table 21.

Table 14: Estimated number ('00) of women of age five and above usually engaged in domestic duties and willing to accept work at their residence by type of work acceptable.

Type of work acceptable	Rural	Urban
Dairy	70 811 (36.3)	9 439 (19.3)
Poultry	28 831 (14.8)	5 431 (11.1)
Other animal husbandry	16 903 (8.7)	1 319 (2.7)
Spinning and weaving	36 532 (18.7)	7 501 (15.4)
Manufacture of wood and cane products	2 115 (1.1)	678 (1.4)
Tailoring	31 818 (16.3)	19 277 (39.5)
Leather goods manufacturing and repairing	551 (0.3)	253 (0.5)
Others	7 908 (4.0)	4 949 (10.1)
Total	195 469 (100.0)	48 850 (100.0)
Percentage of women willing to accept work to total women engaged in domestic duties.	3.11	19.80

Note: Figures in parentheses are percentages.

Sources: GOI, National Sample Survey Organization, NSS 32nd Round Report No. 298, Table 28.

Agricultural earnings

Data on wages for agricultural labour are found in a number of sources including:

- (i) the four surveys focussing on agricultural labour covering the period 1950-75 (ALE I, ALE II, RLE I, RLE II);
- (ii) District-wise Intensive Type Studies (1967-70);
- (iii) National Sample Surveys (13th-19th Round, 25th, 27th, 32nd, 38th Round);
- (iv) Farm Management Studies (1954 onwards);
- (v) Agricultural Wages: official series published annually giving district level wage quotations.

Tables 15 and 16 give some idea of sex-based and age-based wage differentials from NSS and RLE data. The differentials are well marked but there is some evidence of narrowing range during 1965-75 as shown in Table 16. Table 17 shows recent movements in real wages.

Table 15: Average daily wage earnings of casual labour in rural India by type of work (Rs.)

Work (1)	Male wages (2)	Female wages (3)	(3) as % of (2) (4)
Ploughing	3.85	2.85	74.03
Sowing	4.04	2.50	61.88
Transplanting	8.87	2.82	72.87
Weeding	3.33	3.22	96.69
Harvesting	3.84	2.81	73.18
Other agricultural operations:			
Manual	3.71	2.54	68.46
Non-manual	3.30	2.32	70.30
Non-agricultural operations:			
Manual	5.12	5.08	99.22
Non-manual	2.74	2.60	94.89

Source: Bhattacharya, Sudhir. 'Women's Activities in Rural India', Table 19.

Table 16: Average daily earnings of workers of rural labour households, engaged in agricultural operations

S. No.	Category	ALE I 1950-51	ALE II 1956-57	RLE I 1964-65	RLE II 1974-75
1	2	3	4	5	6
I.	<u>Average Daily Earnings</u>				
a.	Men	1.00	0.96	1.43	3.24
b.	Women	0.68	0.59	0.95	2.27
c.	Children	0.70	0.53	0.73	1.82
II.	<u>Operation-wise Earnings</u>				
A)	<u>Men</u>				
1.	Ploughing	1.05	1.00	1.39	3.35
2.	Sowing	-	-	1.51	3.74
3.	Transplanting	1.16	1.11	1.86	3.34
4.	Weeding	0.89	0.88	1.42	3.07
5.	Harvesting	1.26	0.93	1.43	3.41
B)	<u>Women</u>				
1.	Ploughing	-	-	0.88 (13.3)	2.35 (70.1)
2.	Sowing	0.60	0.82	0.78 (51.7)	2.60 (69.5)
3.	Transplanting	0.72	0.69	1.00 (53.7)	2.50 (74.9)
4.	Weeding	0.54	0.52	0.81 (57.0)	1.95 (63.5)
5.	Harvesting	0.79	0.58	0.87 (60.8)	2.39 (69.9)
6.	Others	-	-	0.92 (66.7)	2.29 (73.6)
C)	<u>Children</u>				
1.	Ploughing	-	0.60	0.88	2.11
2.	Sowing	-	0.83	0.85	1.86
3.	Transplanting	-	0.64	1.01	2.15
4.	Weeding	-	0.51	0.72	1.78
5.	Harvesting	-	0.55	0.79	2.08
6.	Others	-	0.46	0.71	1.70

Note: (1) Earnings include payments in kind besides money wages.
(ii) Figures in parentheses show female earnings as percentage of male earnings.

Source: (i) Rural Labour Enquiry 1974-75, Final Report on Wages and Earnings of Rural Labour Households Part II, pp. 127, 140 153.
(ii) Rural Labour Enquiry, 1964-65, Final Report (All India), pp.137, 169, 172.

Table 17: Daily earnings of men, women and children in agricultural and rural labour households in agricultural and non-agricultural operations, 1964-65 and 1974-75

No.	Head	All Agricultural operations			Non-agricultural operation		
		1964-65	1974-75	Increase percent	1964-65	1974-75	Increase percent
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	Agricultural Labour Households						
a.	Men	1.00	0.88	-12.00	1.08	0.89	-17.59
b.	Women	0.66	0.62	-6.06	0.64	0.58	-9.38
c.	Children	0.50	0.49	-2.00	0.52	0.50	-3.85
2.	All Rural Labour Households						
a.	Men	0.99	0.89	-10.10	1.31	1.11	-15.27
b.	Women	0.62	0.62	0.00	0.83	0.64	-22.89
c.	Children	0.53	0.49	-7.55	0.57	0.50	-12.28

Note: Estimates of earnings in RLE I and II in current prices have been converted into constant price estimates using the Consumer Price Index for Agricultural Labour with base 1960-61=100.

Source: GOI, Planning Commission, Draft Sixth Five-Year Plan (revised) 1978-83, Chapter 10, Annex 9.

Several significant points emerge from the tables: (i) even for tasks for which female expertise is accepted (e.g., transplanting), women are paid appreciably less than men; (ii) real wages for both men and women have declined over the years and (iii) though actual agricultural wages for both male and female are inadequate from the point of view of minimum needs, a lower average rate of remuneration, combined with a shorter period of annual employment, tends to push a typical woman agricultural labourer below the poverty line.

B. Fertility, Mortality, Marital Status and Literacy

Fertility and mortality

A number of demographic variables such as marital status, nuptiality, fertility, mortality, morbidity and migration rates serve as useful indicators for understanding the situation of sub-populations. Table 18 provides selected mortality statistics from available data on rural and urban India. Mortality rates for women are higher than men's well into the reproductive age span after which they are superseded by male mortality. The sex differentials in mortality are noticeably narrower in the urban population.

Infant mortality figures and the mortality rates for the 0-4 age group support the hypothesis that female children are neglected. Other data reveal the markedly higher incidence of infant deaths among illiterate rural women (132 per thousand) as compared to their illiterate sisters (90 per thousand).^{1/} For these two groups,^{2/} the general marital fertility rates are currently estimated at 173 and 155 respectively.

Age-specific fertility rates in rural areas for the 1970s are shown in Table 19.

1/ GOI. Handbook on Social Welfare Statistics, p. 50.

2/ Ibid. p.52, Table 2.18 (general marital fertility rates are here defined as number of living births in a year per 1 000 females in the age group 15-49 years).

Table 18: Age-specific death rates by sex and residence, 1977

Age Group (in years)	Rural		Urban	
	Male	Female	Male	Female
(1)	(2)	(3)	(4)	(5)
All ages	15.1	16.7	9.4	9.4
0-1 (infant mortality)	136.0	146.0	80.0	82.0
0-4	52.1	60.4	26.4	27.8
5-9	4.0	5.5	2.2	2.5
10-14	1.9	2.2	1.4	1.2
15-19	2.5	3.4	1.3	2.7
20-24	2.7	5.0	2.1	2.4
25-29	2.7	5.8	2.1	2.7
30-34	3.7	5.2	3.4	3.3
35-39	6.0	5.3	3.4	3.2
40-44	8.8	7.0	5.8	4.0
45-49	12.0	8.0	10.4	7.8
50-54	18.9	13.5	17.0	11.6
55-59	27.3	20.8	23.4	20.0
60-64	39.9	38.1	36.8	29.3
65-69	54.7	52.9	56.7	43.0

Age specific rate: Number of deaths in a year in any specific age group per 1 000 persons in that age group.

Source: Sample Registration Bulletin, Vol. XIV, No. 2 (December 1980), p. 12 and Vol. XV, No. 1 (June 1981), p. 35-36. Registrar General, India, Ministry of Home Affairs, GOI, New Delhi.

Table 19: Age-specific fertility rates in rural and urban India, 1972 and 1976

Age Group (in years)	Rural		Urban	
	1972	1978	1972	1978
15-19	97.5	72.7	52.2	41.9
20-24	273.5	237.7	220.6	192.1
25-29	283.4	240.7	247.3	190.5
30-34	227.2	167.9	173.4	133.5
35-39	151.2	115.0	198.2	70.0
40-44	82.7	52.3	43.3	24.1
45-49	23.7	24.9	13.0	6.8

Source: Survey of Infant: Child Mortality, 1979 - A Preliminary Report, Office of the Registrar General, India, New Delhi, 1980, p-ss.

Marital status

Table 20 gives the distribution of women agricultural workers by marital status according to the 1971 census. The pattern is similar for both cultivators and agricultural labourers. About half the widowed workers were working as agricultural labourers and 30 percent as cultivators.^{1/} Similarly, while only 15 percent of divorced and separated women were cultivators, nearly 60 percent were agricultural labourers.^{2/} A sizeable number in these two groups were presumably also heads of households.

1/ GOI 1971, Series-I, India, Part II-B(ii), Table B-I, Part B.

2/ Ibid.

Table 20: Percentage distribution of female agricultural workers by marital status, 1971

Marital status	Cultivators	Agricultural labourers
1. Never married	11.3	12.8
2. Married	71.6	69.5
3. Widowed	16.4	15.0
4. Divorced/separated	0.7	1.7

Source: GOI 1971 Series-I, India, Part II-B(ii) Table B-1, Part B.

Literacy levels

Literacy and numeracy have now become basic skills for facing the growing complexities of the socio-economic environment, even in rural areas. Enhancing awareness and adaptability, they are important vehicles for improving the quality of life. Over the years the literacy rates for agricultural workers have risen (from 12.6% in 1961 to 24.7% in 1971) but they are still minimal particularly for women agricultural labourers. Their literacy level remained almost static at 2 percent during 1981-71.

Table 21 highlights the distressing levels of illiteracy in the agricultural sector which have to be construed as structural blocks to social, political, economic and technological advancement. According to the 1971 census data, less than 4 percent of women cultivators and only 2 percent of women agricultural labourers were literate as compared to 39 percent and 7.30 percent respectively of their male counterparts. The overall literacy rates^{1/} for men and women in the 1971 census were 39.5 percent and 18.7 percent respectively.

Table 21: Percentage distribution of agricultural workers by educational levels in rural India, 1971

S. No	Year/Educational levels	Cultivators		Agricultural labourers	
		Male	Female	Male	Female
1.	Illiterate	64.08	91.59	78.90	94.96
2.	Literate (without education levels)	11.54	3.58	8.01	2.20
3.	Primary	15.70	3.96	9.96	2.48
4.	Middle	6.39	0.77	2.68	0.33
5.	Matriculation or higher secondary	2.08	0.097	0.43	0.02
6.	Non-technical diploma or certificate not equal to degree	0.08	0.002	0.008	*)
7.	Technical diploma or certificate not equal to degree	0.009	*)	0.002	*)
8.	Graduate and above	0.11	0.003	0.003	*)
9.	Total	100.00	100.00	100.00	100.00

*) Proportions lower than 1 per 1 000.

Sources: COI, 1971, Series I, Part IIB (ii), General Economic Tables, 1971, Table BIII, Part B.

1/ GOI 1971, Series I-India, Part II B (ii) Table B III.

According to 1981 census estimates for rural India, about 25 percent of 5-9 year-old girls and about 29 percent of 10-14 year-old girls were attending school as compared to 40 percent and 58 percent attendance among boys in the two consecutive age groups.^{1/} There is a wide variation in state-level literacy rates with Kerala reporting the highest enrolment in school for age groups 6-19 and 11-13 years.^{2/} A recent study has linked the lower mortality rates of Kerala with the remarkably high literacy rates, particularly for women, confirming the hypothesis that literacy decreases mortality levels by increasing awareness about the need and right to use public facilities.^{3/}

1/ COI 1981 Series I-India, Paper 2 of 1983, Table 14.

2/ Nag, M. 'Impact of Social and Economic Development on Mortality: A Comparative Study of Kerala and West Bengal'. EPW Annual Number, May 1983, Table 22.

3/ Ibid. p. 895

III. DEFICIENCIES IN DATA AND RECOMMENDATIONS FOR IMPROVEMENT OF DATA AND FUTURE WORK

Quantification of household activity

A crucial area on which we have little quantitative information relates to the realm of non-monetized household activity in which most agricultural household members participate but which are typically associated with women. These include diverse tasks such as food processing, care of domestic animals, maintenance of kitchen gardens, preparing and supplying food to workers in the field, collecting manure, fodder, fuel, etc.

Secondly, women, children and aged may also participate in a variety of activities not related to the main occupation of the household but augmenting its resource base (e.g., weaving and other crafts).

Thirdly, quite apart from activities conferring economic benefits to the household through 'regular', i.e. remunerated work, and through unpaid work, women and children also perform the low-prestige, 'back-up' chores which are not overtly remunerative but are indispensable to the household for releasing some of its members for directly gainful activity/employment.

Participation in such economically relevant but unpaid and home-based activity is seldom reflected in large scale surveys chiefly because these are not perceived as economically significant by investigators as well as respondents.

Enhancing quantitative knowledge of these types of non-monetized household activity basically involves two major innovations: (i) collection of data on time-budgets of all members of sample households incorporating a wide range of unremunerated but economically meaningful activity and (ii) formulation of a theoretical and methodological framework for valuation of the contribution of key groups such as women, children and aged engaged in such activity.

- (i) NSS 25th Round (1970-71) collected time disposition data for small cultivator and rural labour households belonging to the weaker sections of society against ten specified activities evenly divided into 'gainful' and 'other than gainful'.^{1/} For a proper focus on the activity patterns of the population dependent on agriculture, we require more detailed time budgets on a more comprehensive universe of households, all members being classified by sex, age, education and employment status. Even though resource constraints might preclude the implementation of such surveys on a national scale at frequent intervals, it should be possible to devise periodic exercises in which requisite material is gathered through intensive surveys in selected regions.

An important step in this direction is the on-going intensive survey of time allocation in rural India undertaken by the National Council of Applied Economic Research (NCAER). Based on a sub-sample of the NSSO sample of its Employment/-Unemployment Survey of 1983 (NSS 38th Round), the NCAER records over the reference week the time disposition of individual members of a cross section of rural households spread over four states. It is hoped that the findings of this study will serve to cross check the accuracy of relevant NSSO estimates and will offer insights into the economic contribution of the less visible members of agricultural households.

- (ii) The debates on theoretical and methodological approaches to quantification of women's work in the household are not yet resolved. Nevertheless, scholars have attempted to impute money values to non-monetized activity carried out within the household, mostly in the context of highly monetized and industrialized economics. In her study on unpaid work in the household, Luiselle Goldschmidt-Clermont^{2/} examines 75 such evaluations and presents a typology of evaluation methods.

^{1/} See NSSO Report No. 237.

^{2/} Goldschmidt-Clermont, L. Unpaid work in the Household: A Review of Economic Evaluation Methods, ILO, Geneva, 1976.

The quantification of issues is more complex and formidable in the context of developing countries with a predominance of non-market activities such as subsistence agriculture. However, attempts may be made to evolve a practical methodology for quantification/evaluation of unpaid household activity of key groups in the agricultural sector on the basis of a judicious combination of the following criteria.

- a) Where unpaid outputs of goods and services have market equivalent and lend themselves to comparatively easy and accurate measurement, monetary estimates could be based on market prices of such goods and services (e.g., products from kitchen gardens, poultry and dairy farming, articles from household craft, services such as care of domestic animals, etc.).

The task of quantifying non-monetizing activity would be made easier if on-going and projected research work on time allocation simultaneously attempted to record the local market value of goods and services produced in the course of household activity. If these goods or services are not marketed in the survey area, prices of allied products or prices from contiguous markets may serve as the basis for imputed values.

- b) Where women and children are engaged in arduous activities essential for the survival of the household, valuation of many such activities will be inadequate if referred solely to market equivalents. The market price of resources obtained by means of strenuous effort on the part of women and children, such as bundles of firewood or vessels of water, does not reflect the time and the toil invested in them. In such cases, the time input seems to be a more appropriate measure than the resource output related to the activity concerned.^{1/} Thus, an alternative and complementary basis of valuation could be the opportunity cost of time expressed as average wages of market workers^{2/} in a particular sector or the legal minimum wages applicable to that sector.^{2/}

It is important to note in this context that the case for integrating non-monetized activity into data systems has been vitally strengthened by the Resolution on Statistics of the Economically Active Population, Employment and Unemployment adopted by the Thirteenth International Conference of Labour Statistics (ICLS) convened by the ILO in October, 1982.^{3/} A unique feature of the Resolution is the special reference to persons engaged in production of economic goods for own or household consumption, specifying that 'they should be considered as in self-employment if such production comprises an important contribution to the total consumption of the household'.^{4/} It is hoped that in the wake of this revision of international statistical standards, the national data systems will introduce suitable innovations to resolve the dichotomy between work and household activity without sacrificing international comparability of data.

1/ A new approach to the analysis of household behaviour treats time as an economic resource in the production and consumption of the household. See Navera, Emeline Realubit. 'The Allocation of Household Time Associated with Children in Rural Households in Laguna, Philippines'. The Philippine Economic Journal, Number Thirty-Six, 1978.

2/ Reservations may be expressed in applying the opportunity cost methodology for valuation of household activity since in a situation of pervasive unemployment associated with countries like India, wages foregone sometimes appear to be an illusory concept. Nevertheless, a beginning might well be made by adopting some notion of average agricultural earning as a rough yardstick of evaluating labour time spent by women, children and aged in agriculture in non-remunerated household activity discussed above.

3/ 'Resolution I & II', Thirteenth International Conference of Labour Statisticians, Geneva, 1983.

4/ Rao, M.V.S. 'New International Standards for Statistics of the Economically Active Population'. Quarterly Bulletin of Statistics for Asia and the Pacific, Vol. XII No. 4, December 1982, p. 3.

Earnings of women, children and aged in agriculture

Even where work in agriculture is duly recognized and recorded, available tabulations do not usually show the separate earnings of members of the household (specially women and children) and thus do not reflect the extent of the financial support provided by individual members. A number of enquiries however, do contain specific references to activity and earnings of individual members of the household. These need to be thoroughly explored for generating data on the contribution of women and children to household income.^{1/} Disaggregating the earners by age can provide additional information on contribution of the aged. One consequence of research on these lines may well be that for certain types of households women may emerge as key contributors rather than peripheral providers.

Evaluation of productivity

Two major gaps that still confront us despite numerous quantitative analyses of the trends and features pertaining to Indian agriculture relate to evaluation of the productivity of special groups linked to agriculture and evaluation of their contribution to the GDP and its sectoral components.

In agriculture-based developing countries like India, the level of agricultural productivity becomes a crucial determinant of economic progress. Quantitative data on productivity of agricultural inputs therefore assume an importance of their own.

The Ministry of Agriculture has been sponsoring 'Studies in the Economics of Farm Management' in different regions of the country since 1954. Wide ranging statistics compiled in these studies include size distribution of farms, cropping pattern, crop yield, costs of production, coefficients of elasticities of agricultural inputs and physical and value products of human labour.^{2/} But since human labour is only classified as family labour and wage labour, disaggregated productivity indices are not available for women, children and aged. An obvious area for further investigation therefore lies in the quantification of productivity in agriculture by sex and age, cross-classified by agricultural operations.

This long overdue empirical exercise will not only test the hypothesis of productivity differentials between the sexes, often used for explaining wage differentials, but will also open the way for analysing the contribution of women, children and aged in agriculture. Their physical or value productivities multiplied by their numerical strength can provide a very rough approximation of their contribution.

Moni Mukherjee suggests a methodology for measuring women's contribution to GDP.^{3/} In her work, women's contribution as a proportion of GDP is related to the proportion of women workers in the total work force. Different assumptions are used to generate different estimates, the lowest according to Mukherjee being 14 percent in GDP and 20 percent in the GDP originating in agriculture.

Intra-household disparities

Traditionally the family or the household has been visualized as the decision-making unit for production and consumption and has therefore served as the unit of analysis. The implicit assumption is that there is no discrimination within the family in the sense that every member enjoys the same level of well-being in terms of access to resources. This view, however, is now subject to serious scrutiny. Amartya Sen has argued that

1/ See, e.g. RLE II, Appendix IX-1 (Schedule 10.1, Block 4) and Time Allocation Survey, Household Economic Schedule, NCAER (1982-83).

2/ See e.g. GOI, Directorate of Economics and Statistics, Studies in the Economics of Farm Management in Thanjavur, (Tamil Nadu), Report for the years 1967-70, 1974.

3/ Mukherjee, M. 'Contribution to and Use of Social Product by Women' Paper presented at Workshop on Women and Poverty, Centre for the Study of Social Sciences, Calcutta, 17-18 March 1983.

evidence of sex-bias (against the female) and age-bias (against children) comes from different parts of the world but the picture of discrimination is much sharper and more widespread in the poorer third world economies.^{1/} From his recent study in rural West Bengal, Sen finds that a pronounced sex bias exists both in '(i) the greater prevalence of undernourishment of various degrees among girls than in boys, and also in (ii) the lower growth dynamics of girls vis-a-vis boys'.^{2/}

The Sixth Five-Year Plan makes an indirect reference to this phenomenon though its basic approach is still family-centred: 'The basic approach is of the family as a unit of development; within this approach special attention on the most vulnerable members will be given ... for some time in the future women will continue to be one of the most vulnerable members of the family'.^{3/}

There is however, a great need for individualization of the household because women are prey to higher morbidity and mortality, subsist on inferior nutrition and lack access to assets and to knowledge and training.^{4/}

The disparity within the household can be aggravated by inequality between men and women as beneficiaries of public assistance. When poverty alleviation schemes select target households for example, only one member per household - typically a male - may be identified for support, bypassing the women with the greater need.^{5/}

It is important that the facts of inequality are brought into focus. The governments participating in the World Conference on Agrarian Reform and Rural Development (WCARRD) declared that 'Rural development based on growth with equity will require full integration of women, including equitable access to land and water and other natural resources, inputs and services and equal opportunities to develop and employ their skills'.^{6/} For ensuring equity the first step seems to be perception of the population, not primarily as households, but as males and females amongst various sets of households, differentiated by assets, occupation, caste, location and other relevant characteristics. Researchers, therefore, face a challenging task in probing into the mechanics of intra-household disparity and in finding ways to end it.

Technological change

Many developing countries including India are now engaged in modernizing their agriculture. Modernization or technological innovation in agriculture may assume two aspects: basically land-saving (such as the Indian programmes for agricultural development associated with high yielding variety seed and 'green revolution') or labour-saving (use of pump sets, weedicides, tractors, harvestors, etc.).

The impact of new agricultural technology on the employment, earnings and work burdens of the population attached to that sector, however, remains to be studied in depth.

1/ Sen, A. 'Family and Food: Sex bias in Poverty'. Mimeograph, Oxford University, 1981. To be published in P. Barghan and T.N. Srinivasan (eds.) Rural Poverty in South Asia, Columbia University Press (forthcoming).

2/ Sen, Amartya, & Sengupta, S. 'Malnutrition of Rural Children and the Sex Bias'. EPW, Annual Number May 1983, p. 855-63.

3/ GOI, Planning Commission, Sixth Five-Year Plan, 1980-85, p. 424.

4/ Sen, Amartya. 'Family and Food: Sex Bias in Poverty' and References cited by author.

5/ This aspect is being explored in the Country Study on Female-headed Households undertaken by the ISST, sponsored by the ILO (on-going).

6/ 'Follow-up to WCARRD: The Role of Women in Agricultural Production' (Expert Consultation on Women in Food Production). FAO, Rome, September, 1983.

It has been observed that technology does not intrinsically discriminate between the sexes.^{1/} At the same time under the prevailing sex-based division of labour, certain types of technological changes may prove more favourable for men than for women. A two-fold comparison is thus required: between men and women, on the one hand, and between women of different socio-economic strata, on the other. In the Indian context it has been noted that certain types of improved technology^{2/} may rob the women workers of livelihood, specially those belonging to poverty groups.^{2/}

A few micro-studies have analysed the impact of improved agricultural practices on female labour in agriculture including production of high yielding variety (HYV) wheat and rice, irrigation schemes, etc. With regard to HYV wheat, it has been found that harvesting takes up about 88 percent of female labour time and as this particular task is still performed manually, no major threat to women's wage employment seems imminent.^{3/} In HYV rice cultivation, women, especially those employed as casual labour, contribute a substantial proportion of total labour. But the employment advantages of the technological innovation cannot be assumed to necessarily benefit the women when there is unequal sharing of income, consumption and work burdens^{4/} between men and women in addition to women's exposure to health hazards in field work.^{4/}

In some areas of north India, improved irrigation facilities have lowered work participation of rural women.^{5/} In yet other areas in South India, introduction of cash cropping in the wake of greater availability of better types of agricultural inputs seems to have led to reduced nutrition for women of low-income households.^{6/}

Perhaps one way of studying the impact of modern technology in agriculture would be to locate a reasonable number of districts in various states where technological improvement has occurred in the shape of better agricultural inputs, and then to compare the socio-economic condition of men and women agricultural workers in these areas to that obtained in a control sample of districts without significant change in agriculture practices.

1/ Ahmad, Iftikar. Technological Change and the Conditions of Rural Women. ILO, Geneva, 1978, p. 4.

2/ Institute of Social Studies Trust. 'The Modernisation of the Weaving Industry in the Kashmir Valley, Asian and Pacific Centre for Women and Development (APCWD), 1979; Jain, Devaki. 'Impact of a UNDP Aided Project for Development of Woollen Handloom Industry in Jammu & Kashmir'. Paper presented at Expert Committee Meeting, APCWD, Tehran, December, 1977; Saikia, P.D., Gogoi, K., & Lekram, A. 'The Changing Role of Women in Rural Societies, A Case Study in Assam'. Mimeograph, Agro-Economic Research Centre North East India, Jorhat, 1983.

3/ Aggarwal, Bina G. 'Agricultural Modernisation and Labour Use: A disaggregated Approach. International Labour Review, January-February 1981 (Vol. 120 No. 1) p. 125.

4/ Aggarwal, Bina G. 'Rural Women and the High Yielding Variety Rice Technology in India'. Paper presented at the Conference on Women and Rice Farming Systems, International Rice Research Institute, Manila, 26-30 September 1983.

5/ Sinha, S.P. 'Impact of Technological Development in Agriculture on Women in Rural Areas - A Two Village Profile'. Mimeograph. Sponsored by the ICSSR.

6/ Institute of Social Studies Trust. 'Inter-State Tasar Project: Report on a Field Study'. New Delhi, 1982.

Female-headed households

'The basic problem of poverty and growth in the developing world can be stated very simply. The growth is not equitably reaching the poor and the poor are not significantly contributing to growth.'^{1/} The implication of this statement becomes very clear when we remember that female-headed households in India are more poverty prone.^{2/}

Recent investigation has shown that households with female heads form a significant and distinct category calling for a separate analysis of available statistics.^{3/} About 50 percent of these household heads are engaged in agriculture and their main characteristic is economic deprivation as reflected in their poor resource base.^{4/}

The 1971 census classified households by the sex of the head of the household and a number of national-level surveys (including the NSS) routinely record the name and sex of the head of household. The socio-economic position and the needs and problems of the female heads in agriculture, however, have not yet attracted the attention it deserves from researchers and administrators. Priority must be accorded to the study of female-headed households in agriculture as it is important to know in what respects these differ from or lag behind male-headed households. Systematic retabulation of existing household data from the following standard sources by the sex of the household head will go a long way in filling the gaps in knowledge:

- a) Census: for data on region-wide distribution of female-headed households, age, education, marital status, occupation, etc.;
- b) NSS and RLE: for data on nutritional status, assets base, land possessed/-cultivated, income expenditure, employment, indebtedness, etc.;
- c) Agricultural Census 1970-71 and 1976-77: for data on size of holding, cropping pattern, livestock, farm machinery, agricultural inputs such as seed, fertilizer, irrigation, etc.

Another set of households is not formally recognized as female-headed but may, in effect, function like one. These are rural households where women have to take charge of the family farm and act as the decision maker because of male labour migrancy. Conceptual and practical problems^{5/} have inhibited quantification of the roles of such women but they merit serious study.^{5/}

Access to development

A number of rural development programmes have been introduced in India since the Third Five-Year Plan such as MFALDA (Marginal Farmers and Agricultural Labourers Development Agency), IRDP (Integrated Rural Development Programme), NREP (National Rural Employment Programme). Simultaneously, the agricultural sector has experienced institutional innovations such as land reform measures, cooperatives in marketing and credit and extension of rural banking.

-
- 1/ Towards Accelerated Development: Proposals for the Second United Nations Development Decade. Report of the Committee for Development Planning, United Nations, New York, 1970.
 - 2/ Parthasarthy, G. 'Rural Poverty & Female-Headed Households. Paper presented at Technical Seminar on Women's Work and Employment, New Delhi, 9-11 April 1982.
 - 3/ 'Female-Headed Households in India: A Country Study'. Institute of Social Studies Trust, sponsored by ILO (on-going).
 - 4/ Visaria, Pravin and Leela. 'Indian Households with Female Heads: Their Incidence, Characteristics and Levels of Living'. Paper presented at Work Shop on Women and Poverty, Calcutta, 17-18 March 1983.
 - 5/ Youssef, Nadia. 'Improving Concepts and Methods for Statistics and Indicators on Women - Technical Report'. Paper prepared for the Expert Group on Improving Statistics and Indicators on the Situation of Women, New York, 11-15 April 1983, (UNSO, New York, 11 March 1983, ESA/STAT/AC. 17/3-INSTRW/AC1/3).

Surveys of the utilization of the development schemes, specially poverty alleviation programmes, reveal however, that women are not benefitting from the channels of economic aid or special services available to them and their children, frequently because of their lack of awareness.^{1/}

This opens a new facet of research on women and children in agriculture: assessing the extent and content of facilities actually flowing to these groups. The following indicators have been suggested for examining rural women's access to agricultural information and services:

1. Sex ratio of agricultural extension workers.
2. Agricultural vocational training enrolment rates by type and level of training and by sex.
3. Percent of rural women with agricultural training by type and level of training.
4. Percent of agricultural loans granted to women farmers by type and size of loan.^{2/}

Since most official development exercises and welfare schemes are regularly evaluated by their sponsoring departments or by special monitoring bodies, a mass of data have accumulated in government records over the years at various levels of administration.^{3/} Systematic scrutiny and sex-wise retabulation of these data may expand information on percolation of development benefits to special groups in the population. In addition, specially designed village surveys, can throw valuable light on the development process operating at the grassroots level.^{4/} Village surveys conducted under the auspices of the regional Agro-Economic Research Centres (AERC) may also provide useful insights and relevant data.^{5/}

Energy expenditure and nutrition needs

The concept of the poverty line is widely used in India to identify the economically weaker sections of society as the target population of development/welfare programmes. The poverty line in its turn, is based on the concept of a minimum level of income/-expenditure capable of ensuring an average daily intake of food that satisfies the minimum nutrition/energy requirements of the human body defined in terms of calories.^{6/}

1/ 'Integrating Women in Development'. Research project undertaken by Institute of Social Studies Trust, sponsored by the Ministry of Social Welfare, Government of India (ongoing).

2/ Safilios-Rothschild, Constantina. 'The State of Statistics on Women in Agriculture in Third World'. Paper prepared for Expert Group on Improving Statistics and Indicators on the Situation of Women, New York, 11-15 April 1983, (UNSO, New York, 7 April 1983, ESA/STAT/AC. 17/1-INSTAW/Ac. 1/7).

3/ See GOI, Ministry of Social Welfare, Handbook on Social Welfare Statistics, 1981.

4/ Institute of Social Studies Trust is now engaged in such a study in Karnataka State: 'Integrating Women in Development'.

5/ See Lambert, Claire M. ed. Village Studies: Data Analysis and Bibliography (Volume 1: India 1950-1975). Institute of Development Studies, University of Sussex, 1976.

6/ The Sixth Five-Year Plan places a high priority on poverty alleviation. A quantitative index for poverty was formulated in the Report of the Task Force on 'Projections of Minimum Needs and Effective Consumption Demand' (Set up by the Planning Commission in 1977) where poverty line is defined as the mid-point of the monthly per capita expenditure class having a daily calorie intake of 2400 per person in rural areas and 2100 in urban areas. At 1979-80 prices, the mid-points are Rs. 76 and Rs. 88 for rural and urban areas respectively (GOI, Planning Commission, Sixth Five-Year Plan (1980-85), p. 51.

Average calorie requirements for men and women of different ages, classified as sedentary or physically active have been worked out by a number of expert bodies including those appointed by the FAO and Indian Council of Medical Research.^{1/}

A more scientific approach in defining the poverty line through calorie norms, however, is called for in the case of agricultural workers of different age groups, even though classified as sedentary or active, because they often perform tasks requiring effort and exertion likely to be quite different from the average levels associated with the population at large. Thus, a more satisfactory procedure of deriving the poverty line for the agricultural sector in terms of minimum calorie needs has to link itself to two sets of basic data: (a) estimates of calorie requirements taking into account calorie/energy expenditure on agriculture-specific tasks (ploughing, hoeing, sowing, weeding, transplanting, reaping, processing grain, using means of irrigation, etc.) and (b) estimates of daily intake of calories/nutrition for members of agricultural households classified by sex and age.

(a) There is a great dearth of studies focussed on energy expenditure or calorie cost of activities related to Indian agriculture though some data have been presented for different types of industrial and military activity in India.^{2/} Moreover, the few estimates of energy output in agricultural activity are confined to male labour.^{3/} Attempts have been made by individual researchers to calculate relative calorie costs of various tasks performed by men, women and children based on micro-studies.^{4/} But more broad-based and adequately researched data obviously need to be generated for measuring the calorie requirements of special categories of agricultural workers.

Further, it must be remembered that (i) women and children agricultural workers, specially from low-income households, bear a heavy physical burden imposed by the lack of basic amenities (water, fuel, sanitary facilities, etc.) and thus need additional calories;^{5/} (ii) women also need additional nutrition through their child-bearing age; and (iii) children need special nutritional supplements for protection against childhood diseases and deficiencies.

(b) Some NSS Rounds, as well as the Rural Labour Enquiries, present data on per capita consumption expenditure from which per caput or average nutrition levels can be derived for rural households including agricultural labour households.^{6/} But there has been no concerted effort to collect and tabulate information on intra-family allocation of resources including food in different types of households. Thus, there is no way of ascertaining the nutritional levels attained by women, children and aged in agriculture or measuring the extent of deviation between the

1/ FAO, Energy and Protein Requirement: Report of Joint FAO/WHO Ad hoc Expert Committee, Rome 1973, Table 27; Indian Council of Medical Research, Recommended Daily Allowances of Nutrients and Balanced Diets, Hyderabad, 1968.

2/ See Ramanathan, P.L. & Nag, R.K. 'Energy Cost of Human Labour'. National Institute of Occupational Health, Ahmedabad, (no date).

3/ See Batliwala, S. 'Women in Poverty: The Energy Health and Nutrition Syndrome'. Paper presented at Workshop on Women and Poverty, Calcutta, 17-18 March 1983.

4/ Such as 'Rural Energy Consumption Patterns: A Field Study'. Indian Institute of Science, Bangalore, 1981.

5/ Jain, Devaki & Chand, M. 'Patterns of Female Work-Implications for Statistical Design, Economic Classification and Social Priorities'. Paper presented at the National Conference of Women's Studies, Bombay, 20-24 April 1982.

6/ See, e.g. Household Schedule 10.1 used in RLE II (1974-75). Block 5 of this Schedule contains information on consumption of more than 300 goods and services. See also Seal, K.C. 'A Note on Estimates of Minimum (Normative) Consumption based on NSS Consumer Expenditure Surveys. Sarvekshana, Vol VI, Nos. 1-2 (July-October 1983).

calorie needs and the actual calorie consumption of these groups.^{1/} Micro-studies in rural India and rural Bangladesh indicate that woman-biased sex differentials in nutrition exist in all age groups with clear consequences for female health and survival.^{2/} Intra-household nutrition patterns need to be examined more fully for different socio-economic strata in rural India.

Studies concentrating on energy expenditure and calorie need would not only focus on the physical drudgery and nutritional deficiency experienced by some vulnerable groups but would also suggest alternative ways of alleviating the calorie gap. One researcher suggests that fairly simple ameliorative measures such as piped water or social forestry can conserve about 500 male, 700 female and 300 child calories each day.^{3/}

Literacy data

The previous section presented selected data from censuses and NSS on the size and distribution of child labour in agriculture. The tabulation plan for NSS 38th Round provides for estimates of children (age group 5-14) per thousand persons currently enrolled in school by household type and land possessed. The efficiency of these data in locating the modal age of school leaving and monitoring the progress of literacy would be increased if age intervals are narrowed down and the number of children eligible for schooling in agricultural households and those currently enrolled is matched with the educational facilities available to them (schools, agriculture/craft training centres, teachers, book grants, scholarships, etc.).

Demographic data

For extending demographic analysis to the agricultural sector, data from existing sources must be thoroughly scanned for possibilities of adaptation and disaggregation. Agriculture-specific data series will also serve to test hypotheses regarding demographic behaviour. The positive association of poverty and fertility, for example, is a common assumption in the literature on development. Questioning this assumption Krishnaji observes, 'if we agree to define poverty and riches by wealth rather than current per capita income the evidence on direct measures of fertility (such as the number of children ever born per woman) shows unambiguously that the differences are either narrow or in the expected direction: lower levels among the poorer classes.'^{4/} Obviously, a wider array of data is needed for a fuller exposition of the relationship between birth rates and levels of living.

1/ In her Kerala-based case study of a typical agricultural labour household, Gulati notes that women's calorie intake fell short of ICMR (Indian Council of Medical Research) recommendations by 20 percent on employed days and by 50 percent on unemployed days. Similar figures for men show shortfalls of 11 percent and 26 percent. (Gulati, Leela. 'Profile of a Female Agricultural Labourer'. EPW, 25 March 1978).

2/ Sen, Amartya. & Kunch, Jocelyn. 'Indian Women; Well-being and Survival'. Paper presented at Seminar on Women and Poverty, Calcutta, 17-18 March 1983.

Sen, Amartya. 'Food Battles: Conflicts in Access to Food'. 'Coromandel Lecture'. New Delhi, 13 December 1982.

Chen, Lincoln S., Huq, Emdadul & D'Souza, Sta. 'Sex Bias in Family Allocation of Food and Health Care in Rural Bangladesh'. Population and Development Review, 7;1, March 1981.

3/ Batliwala, S. 'Rural Energy Scarcity and Nutrition: A New Perspective'. EPW, 27 February 1982.

4/ Krishnaji, N. 'Poverty and Fertility: A Review of Theory & Evidence'. EPW Annual Number, May 1983 (Vol. XVIII, Nos. 19, 20, 21), p. 22 f.

Age-specific, education-specific and per capita expenditure-specific fertility rates for rural areas are available for the 1970s.^{1/} The tabulation plan for the 1981 census provides information on total children born to married women cultivators and agricultural labourers on the basis of a 20 percent sample. There would still, however, be a dearth of data on the fertility behaviour of women of agricultural households cross-classified by asset base.

Data on variables such as age of mother at birth of first child, number of live and still births, number of children living, age of youngest child, mode of family planning, if any, mode of child birth (at home or in health centres), etc., provide valuable clues for planning and policy formulation but are not readily available for women belonging to the agricultural sector.

Infant and maternal mortality rates, again, are two accepted indicators of levels of living and standards of health and nutrition prevailing in communities. Sex and age-specific mortality rates and maternal mortality rates however are not available for the agriculture sector separately and thus cannot be used to probe the impact of overall socio-economic development on the one hand, and differential treatment accorded to certain groups, specially women and young girls, on the other. Similarly, though morbidity rates for different groups in society highlight the health problems faced by such groups, these rates have not been computed specifically for women, children and aged in agriculture.

NSS 28th and 35th Rounds have compiled a wealth of material on mortality, morbidity, utilization of medical services, maternal and child care, contraceptive practices, etc.^{2/} Some of these data can be disaggregated not only by rural/urban residence but also by occupational category. Data on family planning, for example, are differentiated by age of wife, number of surviving children, age of last child, method of contraception, stage at which contraception began, etc. The schedule of investigation includes a specific reference to the occupational background of the informant so that it is possible to relate these indicators to women and children of agriculture-based households and chalk out priorities in spheres of health and family planning.^{3/}

Another promising area for further research in this context relates to child mortality. The Registrar General of India has recently conducted a survey on infant and child mortality. The detailed results of this survey should be of much relevance in understanding the demographic behaviour of rural households which could perhaps be disaggregated by occupation.

Priorities

All proposals suggesting improvement of statistics on women, children and aged in agriculture and outlining areas for further study should stress the need to capture all varieties of productive activity. Here the patient probing and discerning judgement on the part of the investigator assumes great importance and the need for adequate training and motivation in obviating non-sampling biases can hardly be over-emphasized.

To sum up, the national data system in India, together with micro-studies, provides a fairly rich inventory of statistics on special groups in agriculture such as women, children and aged. A large number of agriculture-related indicators recommended for situational analysis by expert groups are explicitly or implicitly incorporated in the data systems.^{4/}

1/ Survey on Infant and Child Mortality 1979 - A Preliminary Report, Office of the Registrar General, India, New Delhi, p. 22 f.

2/ 'Some Results of Survey of Family Planning: 28th Round (October 1973-January 1975) NSS'. Sarvekshana, Vol I, No. 3.

3/ 'Prevalence of Physical and Mental Disabilities: NSS 28th Round'. Sarvekshana, Vol. 3 No. 4 (April 1979) Appendix (Investigation Schedule).

4/ Safilios-Rothschild, Constantina. 'The State of Statistics on Women in Agriculture in the Third World'. UNSO, New York, April 1983, p. 1. Paper prepared for the meeting of Expert Group on Improving Statistics and Indicators on the Situation of Women, New York 11-15 April 1983.

For strengthening the data base, the immediate task is to retabulate and disaggregate the available relevant information by occupation, sex and age to bring women, children and aged into sharper focus. Subsequent cross-classification by other variables will generate a sizeable volume of additional data. Wherever feasible, all retabulation should include computation of sex ratios for easy comprehension of the male/female differential.

In the light of data gaps discussed above, future research could concentrate on:

- devising conceptual and methodological tools to adequately capture economic activity performed by rural women and children;
- quantifying productivity of rural women and children in agriculture and their contribution to GDP;
- discerning the impact of poverty alleviation and economic assistance programmes on rural women, specially agricultural labourers;
- examining their access to avenues of economic uplift such as cooperatives, agricultural and vocational training programmes, etc.;
- assessing the implications of modern technology in agriculture not only by class but also by gender;
- analysing the needs and problems of female-headed households in agriculture;
- exploring the decision-making processes and allocation of resources in agricultural households;
- generating sex-differentiated demographic, nutritional and other indicators for levels of living specific to agricultural classes;
- reviewing legislation affecting agricultural work so that the law protects vulnerable groups such as women workers and child workers.

In some areas mentioned above, existing data, suitably disaggregated and cross-classified may provide the initial source material for new studies (e.g., female-headed households and agriculture-specific demographic indicators).

Some areas (such as measuring calorie cost of activities, quantifying economic activity in the household) require carefully structured time allocation surveys with special blocks for recording certain types of relevant information such as: (i) agricultural wages and other type of earnings prevalent in the field and (ii) market prices of goods and services produced or collected free by the households.

Certain other areas, however, require a great deal of innovation in survey methodology which in itself constitutes a distinct area of research. These include intra-household studies and studies relating to sex and age-specific labour productivity in agriculture.

IV. STATISTICAL DEVELOPMENT - SOME ILLUSTRATIONS

Underenumeration: the questionnaire

Most employment/unemployment questionnaires contain a core set of 'blocks' or modules which list certain demographic characteristics of the households as well as give it a certain occupational identification. For example, in the NSSO 32nd Round schedule, after the preliminary demographic question (in block three) a code is given to household principal industry/occupation.^{1/}

This is followed by a block which gets detailed information on individuals in the households including their 'economic status'. For example, block four of the NSSO schedule (both the 27th and 32nd round) in column 12, allocates an activity code to an individual out of a list of activity codes in two-digit classification prepared by the National Sample Survey Organization.

The investigator tries to find out from the respondent, and if possible from the individual members of the household if they happen to gather around, which code will be most suitable for them. There is a local discussion on how to identify the appropriate code for a person.

A time criterion is applied here as well as a priority criterion. The weekly current activity status which is recorded in block four of the employment schedule, considers a person employed during the reference week if that person had 'worked' or was 'employed' for at least one hour on any day during that week in 'gainful activity'. In such cases, she/he is assigned that activity out of the activity codes to which she/he had devoted her/his major 'working' time.^{2/}

Block five then asks those who have reported that they are engaged in 'gainful' activity, the time they spent in half-day intervals in the previous week, through recall. This is called the time disposition block. This gives information on current activity status in greater detail.

However, those who reported in block four that they were attending to domestic duties only, namely, activity status code 92, or attended to domestic duties and also engaged in free collection of goods (vegetables, roots, firewood, cattle feed, etc.), sewing, tailoring, weaving, etc. for household use, namely code 93, are not considered to be in the labour force. Hence, block five is not canvassed on them. Most of these persons are women and children. In other words, a decision on participation in the labour force is taken during question No. 12 in block four and this decision affects women and children most.

One of the issues cited by those engaged in field surveys all over the world is that perception, whether of self or of others, cannot be a reliable source of information especially in relation to gainful economic activity. It is often argued that a male respondent may not know detailed activities of the rest of the family or may suffer from attitudes which perceive their activities as unproductive or non-economic.

1/ This would reflect the regular, single occupation of the person who is the main earner in a family, usually a male, even if his income is not the most critical to survival, or even more simply the highest. It could be 'family' income or occupation, but male heads claim it as their income. Thus a family which may be classified as agricultural may hide behind it women workers who divide their time between some agricultural work, handloom weaving, processing and selling of foodstuffs or piece rate work available at home. This block does contain a question on household subsidiary industry/occupation. However, this also may not be sufficiently sensitive in bringing out the diverse nature of work done by women, giving the household a 'blanket' occupation.

2/ This definition was used for the NSS 32nd round survey. Besides this, information was also gathered on current daily activity status and usual activity status.

The solution to this problem has been discussed and assimilated by the ILO Statistics Division. One innovation that the ILO is considering was suggested by the Institute of Social Studies Trust to the National Sample Survey Organization.

The suggestion is that the disposition of time which is asked for in block five of the employment/unemployment schedule of the national sample survey, should be asked of all members of households above five years rather than only of those who report themselves as economically active in block four.

Though not considered practicable by the NSSO, the ILO has accepted this suggestion and is presently testing this idea in a pilot methodological study in Kerala in southern India. The study is being conducted by the ILO Statistical Division, Geneva, in collaboration with the Kerala Statistical Institute.^{1/} We have already referred to another methodological study that is being conducted by the National Council for Applied Research (NCAER) in Delhi along with the current Indian employment/unemployment round i.e., the 38th Round. It draws a sub-sample of 2 000 households from the sample selected for the current round of about 10 000 households.^{2/} The NCAER sub-sample uses observation as well as recall in recording activities over one week, in one village of selected households. It uses teams of a male and a female investigator. It is hoped that the tabulations emerging from the sub-samples will be comparable to the main samples; if the variations in results are great then the methodology may be changed for the next employment survey in 1988.

In yet another pilot methodological time allocation study, a standard employment/unemployment questionnaire such as the design used by India's National Sample Survey Organization (NSSO), was canvassed on a sample of households as part of a methodological survey conducted by the ISST.^{3/} This questionnaire was canvassed by female investigators. Recording of time of all members of the households through an intensive system of observation was also conducted on the same households during the same year.

In Rajasthan, 4 out of the 37 women who reported as non-workers in the schedule, were in fact spending up to four hours a day in economic activities such as groundnut picking and hoeing the field. Nine others who reported as non-workers were grazing cattle and cutting grass for more than one hour a day. Thus 13 out of 37, or at least 30 percent, were outside the questionnaire net. Besides, 2 of the 36 male children and 2 of 34 female children who reported as non-workers, were observed to be hoeing the fields; 18 other female children were observed to be grazing cattle and cutting grass.

In West Bengal, 20 out of 104 females who reported themselves as non-workers were observed to be engaged in activities such as winnowing, threshing and parboiling grain for as many as 8-10 hours per day. This emphasizes the point regarding the seriousness of measurement failure in similar situations.

Fifteen out of 64 female children who reported as non-workers were also observed to be doing some gainful work. The majority worked as domestic servants. Ten females were reported spending 8-10 hours begging, but were not included as workers in this exercise as the NSSO does not recognize this as an economic activity though it is recognized as an occupation.

The criteria used under the concept of main activity - priority activity and/or majority time - put these women and children squarely into the category of domestic workers. The efficiency with which their other activity - namely gainful activity - is netted depends on the degree of visible marketability of this activity. In other words, the fact that they are uniquely responsible for a zone of work - housework - gives them the distinction of being difficult to net.

1/ Methodological survey on the measurement of employment, unemployment, underemployment and income, Kerala Statistical Institute, Trivandrum and ILO Bureau of Statistics, Geneva (1983).

2/ Time Allocation Study based on a sub-sample of the NSSO sample of its Employment Survey 1983, NCAER.

3/ Jain, D. & Chand, M. 'Report on a Time Allocation Study of Rural Households: Methodological Implications'. 1982.

Given that this is the most regular commitment that women have, the question arises whether the respondent, even if it is the woman herself, would suggest anything different than to say that she is to be allotted the activity code relating to domestic workers. This is her usual status, this is her most regular occupation, and on the basis of time criterion this would be a priority activity. Thus, those who are engaged in economic activities which contribute to the household, but can be subsumed within the household, perceive themselves as engaged in domestic activity.

A very simple modification in the methodology will not only overcome this problem but also reveal other worthwhile data from the point of view of planning human resources, development, technology or infrastructural support.

The change suggested is that in block four, i.e., weekly classification by current activity, the domestic activity code be dropped.^{1/} Instead, three activities are to be added, namely, child care, fuel and water fetching, and cooking and washing. This would remove from the respondent the option of discussing whether the usual status of women is domestic activity and thereby deflect attention from worker/non-worker to activity.

If this is followed up in the time disposition block, then it will be possible to see a profile of men, women and children, especially in the non-formal sector and amongst the low resource households, emerge into the blocks.

The point being conveyed here is that the selection of persons on whom block five should be canvassed is not made in block four where only the respondent's judgement of activity is taken but instead judgement of the respondent's work participation is made from the data coming out from block five where the spread of time over one week allows documenting of a broad range of activities. The tabulators could be given a set of criteria and instead of the umbrella concept of domestic activity, we would now have a very important category of fuel and water fetching and child care emerging from the data.

Information on fuel and water fetching has been recognized as fundamental to better planning in the minimum needs programme as well as the whole fuel, energy and nutrition programmes. Time spent in child care is now a factor being used for understanding the value of investment in social infrastructural support.

At the same time, it would help the investigator and the respondent to avoid the easy pitfall of slotting women and children into the undefined territory called domestic work.

Under-enumeration: the methodologies for estimation

An illustration of how historical data, when re-examined with other data sources, can reveal the gross underenumeration of women workers, is provided in a recent article.^{2/} The author tries to estimate the level of employment generated by hand-pounding of rice by using alternative sets of data such as the number of women huskers enumerated in the census and that computed on the basis of estimates of rice output of Bengal and the number of workers required to process the output manually.

Taking all these factors into account, she provides a table which compares her estimate of number of women huskers in the early 20th century with the census estimates.

1/ See Jain, Devaki. & Chand, M. 'Domestic Work - Its Implication for Enumeration of Workers'. Paper presented at Symposium on Women, Work and Society, Indian Statistical Institute, New Delhi, 22-23 September 1982.

2/ Mukherjee, Mukul. 'Impact of modernization on women's occupations: a case study of the rice-husking industry of Bengal'. The Indian Economic and Social History Review, 20, 1(1983), p. 35.

Table 22: Probable number of women huskers in the early twentieth century

Year	Output of winter & autumn rice (lakh maunds)	Probable no. of women huskers based on column 2 (lakhs)	% of women aged 15-59 based on Column 3	No of women engaged in husking according to Census estimates (lakhs)
(1)	(2)	(3)	(4)	(5)
1901	1 889.1	25.2	22	2.1
1911	2 277.1	30.4	25	2.7

The big difference between census estimates and her estimates, as clearly shown in the table, indicates the degree of measurement failure.

Another interesting insight that appears from this paper is that women in West Bengal are reluctant to participate in economic activities which appear 'public'. This finding is endorsed by the Indian Time Allocation Study,^{1/} which showed that families in rural Bengal, even amongst the assetless, did not participate in 1976-77 in explicit occupations which required their presence in the fields or on the roads. They would be in domestic work, home processing of food, even begging rather than take up work on the land or the roads like the sample women from Rajasthan.

From such findings it is possible to derive the inference that measurement techniques, especially in enumerating as well as drawing out of profiles of the economic and social roles of rural females, require far greater scrutiny than is provided by the usual techniques.

ILO's innovations

We may here refer in some detail to an ILO document on Recent Changes in the International Standards for Statistics of the Economically Active Population issued in September 1983.^{2/} This document introduces certain concepts and guidelines useful for labour force analysis, data collection and classification, data requirements on special topics of concern, and data evaluation and dissemination and thus has a close bearing on the main themes of the present report.

The guidelines on data requirements on special topics refer among others to children and youth, women, families and households, time use, the urban informal sector, rural agricultural activities, disabled and handicapped persons, etc. Attention is drawn, in particular, to the requirement of data on the extent to which children and youth are simultaneously at school and also at work, sex biases in statistics and the problems of measurement of women's participation in economic activity, analysis of multiple and marginal activities through time use studies, etc.

Definitional refinements at the international level are clearly the concern of the ILO but are considered here because they have obvious relevance in improving statistics on agricultural workers at the national level.

1/ Jain, D. and Chand, M. 'Report on a Time Allocation Study'. 1982.

2/ Bureau of Statistics, International Labour Office, Geneva, September 1983. 'Recent changes in the International Standards for Statistics of the Economically Active Population'. Paper prepared for presentation at the Working Party on Employment and Unemployment Statistics, Organization for Economic Cooperation and Development, Paris, 24-25 October 1983, p. 3-4.

The new international definition of employment is to a large extent similar to the earlier definition of employment adopted by the Eighth ICLS (1954).^{1/} The new definition, however, introduces certain elaborations, which make it possible to measure employment more accurately:

- it divides the definition of employment into two separate parts: one on paid employment and the other on self-employment;
- it introduces the new concept of 'formal job attachment' as a means to clarify the old category 'with a job but not at work';
- it explicitly specifies the length of time that a person should be at work for classification as employed;
- in this context, it treats unpaid family workers the same way as other categories of workers and removes the minimum time criterion of one third of the normal working time for their classification as employed;
- it explicitly recognizes unpaid workers who, though not necessarily assisting in an economic enterprise, are engaged in the production of economic goods and services for their own and household consumption. For their classification as employed, however, a condition is stipulated, namely, that the production should comprise 'an important contribution to the total consumption of the household';
- it reiterates the implicit 'priority' criterion and specifies that working students, homemakers and others mainly engaged in non-economic activities but also working should be classified as employed on the same basis as other categories of employed persons.

The new definition of unemployment is also, to a large extent, similar to the earlier definition of unemployment adopted by the Eighth ICLS (1954). The new definition, however, introduces certain amplifications and modifications, which make it possible to measure unemployment more accurately and more meaningfully both in developed and developing countries.

In particular, the definition now provides for the relaxation of the criterion of 'seeking work' in certain situations and emphasizes seeking or availability for self-employment as well as paid employment. These features make the new definition of unemployment particularly more relevant to situations in developing countries.

It is further stated that countries adopting the standard definition of unemployment, without the suggested changes or relaxation, are required to identify persons not classified as unemployed because they were not seeking work, but were available for work all the same and classify them separately under population not currently active. This is applied in particular to the so-called 'discouraged workers'.

Explicit definition

In the new resolution, the statistics of 'economically active population' are explicitly linked with the Systems of National Accounts and Balances, via the concept of 'production of economic goods and services'. This production includes 'all production and processing of primary products, whether for the market, for barter or for own consumption, the production of all other goods and services for the market, and in the case of households which produce such goods and services for the market, the corresponding production for own consumption'. Thus for the first time in relation to the statistics of employment and unemployment, the concept of economic activity has been clearly and unequivocally defined. The resolution thus takes a firm position in relation to the controversies regarding the concept of work and subsistence activities, and the distinction between work and housework, which is not regarded as economic activity.

The following diagram provides a schematic definition of economic activity.

1/ Ibid.

Schematic definition of economic activity

Production of economic goods and services for			
	market only	market and own consumption	own consumption only
Primary products *	X	X	X
Other products	X	X	

* Products from agriculture, hunting, forestry and fishing as well as mining and quarrying - ISIC (1968) Major Divisions 1 and 2.

Review

The preceding sections provide sufficient evidence of not only the roles played by women and children in the broad field of agriculture but their disadvantaged position in relation to men across economic class.

In India, we find females appearing in larger numbers amongst those who are seeking work. We find higher rates of mortality and morbidity among them in their life cycle from birth to middle age. Clustering as they do in the most intermittent, least skilled, least paid tasks they suffer the havoc of development as seen in mechanization and commercialization of agriculture and urbanization.

Thus, the secondary data review creates enough concern to look seriously at the profiles presented by micro-studies. Micro-studies emphasize the unequal distribution of resources between males and females, the unequal access to various forms of power, coupled with profiles of extraordinary inputs of hard work, courage and responsibility of females.

Micro-studies also point out that quantification of the difference between the economic and social behaviour of males and females especially amongst the low resource households, is an essential base for planning and implementation of programmes for the reduction of poverty or the equalization of unequal societies.

However micro-studies, although they open important doors of perception and also provide the basis for project development at the local level, cannot provide the kind of macro-profiles/needs that national and sub-national planners use. It is at this level that the warp - the fabric - of national statistics has to weave in new colours representing women, children and the aged. These colours will emerge if new data are generated from existing collections based on the insights given by micro-studies. But that will still only partially tell the story. The reality, and especially reality regarding the most vulnerable neglected sectors of any poverty population - namely women, children and the aged - will only emerge if new data are collected by special redesigning at the national and international levels.

As discussed and recommended at the Expert Group meeting of the UNSO (April 1983) the global agenda for data revision and collection should be identified as a time table. Special groups whose interest is in these sectors must review the particular collection and intervene at the design stage. Hence, if international standards, definitions, classifications take note of the need for change, then national and sub-national agencies will find it possible to adjust their systems, without losing the important aspect of international uniformity for comparability.

The UNSO meeting identified the 1991 census, the SNA and the occupational classification data as coming for discussion on behalf of women, children and the aged in agriculture.

The overall temperament which prevails while discussing change in the statistics on women and children is the concern on the declining condition of women and children in relation to other segments of society across the globe. While the decline itself cannot be stopped by improving the statistics, it is also true that lack of quantification - in a way lack of knowledge of the exact points at which change is affecting these groups amongst the poor - is responsible for the decline. The improved quantification might affect perception and attitudes. For example, those who take decisions on investment and technological choices could be influenced by the statistical numbers of women in certain tasks and occupations which are likely to be disengaged as a result of the introduction of a new technology or policy.

Again, the relative value of alternative investments/expenditures could be gauged by quantifying the time and energy spent by women, say in infrastructure work such as fuel and water fetching which, if released, could improve their economic contribution and their productivity.

Any or all of these sets of statistics could influence any or all of these perceptions. To that extent, the importance of statistics and of improving them in relation to the poor and amongst them women and children, takes an extremely significant dimension.

A critical aspect of this collecting of new data is the need for tested new methodologies - both for high quality intensive small studies as well as for large scale surveys. There is need for international data collection and data clearing agencies such as FAO, ILO, WHO, Unesco, UNICEF, and the UNSO itself, to bring together working groups to review progress in this field and work it into new surveys.

Enough is known about the nature, pattern and travails of women's work. Scholars and activists have documented many aspects, analysed the theoretical roots of various observed phenomena and made strong statements on the need to recognize and act upon them.

However, the statistical systems still do not reflect this knowledge in spite of strenuous endeavours by the women's movement to influence the data base.

The resistance by the establishments arise usually out of one or all of the following reasons:

1. Ignorance - lack of awareness of emerging new information basically revealing the inequality between men and women as well as the stress, sometimes deadly, facing women; this ignorance leads to giving a low priority to improving the quantity and quality of statistics on women and children.
2. Disbelief - based on addiction to older myths: such as that there is no special problem for women, data are adequate, in any case household data cover their needs.
3. Technical problems of incorporating change. Drastic changes in definitions, in codes, in classifications would disturb comparability both over time and across nations. Gathering sensitive data at the ground level is not always possible in large scale surveys.

The conferences, committees, consultations on women's employment, the articulation of the needs of women, especially poor women's declining status, in various forums by individuals and groups, in documents both government and non-official, have in many ways helped to overcome the first two types of resistance, namely resistance based on ignorance and disbelief. They have in that sense played an important role in supporting technical attempts to overcome resistance.

The important lesson that has emerged from the experience of those who have been trying to introduce women and children more deeply into the statistical system is that the tools to make this entry are yet to be crafted; crafted to suit part of the existing format. Persistence and insistence on fundamental change in concepts, definitions, formats and methodologies brings out the system's worst responses - that is rejection - or it brings out the best - that such designs and such studies are important, are definitely an improvement over the existing methods, but can be undertaken by interested persons outside the system.

For example, most of the recommendations with which national data review papers conclude, say that high quality studies on these systems should be undertaken by research institutions. In other words, do it outside.

On the other hand, if the change demanded is crafted and polished to fit into the format, it is usually accepted and some changes are made though not a total restructuring.

Some efforts^{2/} of this kind are already available.^{1/} Field trials are also under way in certain areas.

These efforts also have to be knit together and the experience worked into new surveys especially National Household Survey Capability Programme (NHHSCP) of the UNSO.

In this report, only one or two illustrations of knitting-in change have been given. But FAO might do well in developing modules to suit different aspects of the life and activities of women, children and the aged in agriculture, after scanning results of pilot methodological special studies, whether in process or to be initiated by FAO itself.

1/ Goldschmidt-Clermont, L. 'Unpaid work in the Household'. ILO, Geneva, 1982.

2/ (1) Kerala Statistical Institute and International Labour Office. 'Methodological Survey on the Measurement of Employment, Unemployment, Underemployment and Income'. Trivandrum, 1983 (in process).

(2) National Council of Applied Economic Research (NCAER) New Delhi. 'Time Allocation Survey'. 1982-83 (in process).

Annex I

Subjects of Enquiry in the Different Rounds of the National Sample Survey

Round No. (1)	Period of survey (2)	Subjects of enquiry (3)
1.	October '50-March '51	Wages, land utilization, household enterprises, household assets and liabilities and monthly working accounts, consumer expenditure, prices.
2.	April '51-June '51	Village statistics, agriculture/consumer expenditure.
3.	August '51-November '51	Village statistics, agriculture and husbandry, small-scale manufacture and handicrafts, transport, trade professions, service and financial service and financial operations, consumer expenditure, prices.
4.	April '52-September '52	Village statistics, land utilization, agriculture and animal husbandry, small-scale manufacture and handicrafts, transport, trade, profession, service and financial operations, consumer expenditure, prices.
5.	December '52-March '53	Land utilization, agriculture and animal husbandry, non-household manufacturing establishments, small-scale manufacture and handicrafts, transport, trade, profession, service and financial operations, consumer expenditure, prices.
6.	May '53-September '53	Village statistics, land utilization, agriculture and animal husbandry, non-household manufacturing establishments, small-scale manufacture and handicrafts, transport, trade, profession, service and financial operations, consumer expenditure, prices, opinion of newspaper readers about newspaper reading.
7.	November '53-March '54	Village statistics, housing condition, land utilization, agriculture and animal husbandry, non-household manufacturing establishments, small-scale manufacture and handicrafts, transport, trade, profession, service and financial operations, consumer expenditure, prices, opinion on out-turn of rice in villages.
8.	July '54-March '55	Housing condition, land holdings, trend of self-management of agricultural holdings, land utilization, small-scale manufacture and handicrafts, transport, trade, profession, services and financial operations, household indebtedness, consumer expenditure, prices, farming practices.
9.	May '55-September '55	Vital statistics, employment and unemployment, land utilization, small-scale manufacture and handicrafts, transport, and trade, consumer expenditure, income and expenditure, prices.

Round No. (1)	Period of survey (2)	Subjects of enquiry (3)
10.	December '55-May '56	Village statistics, housing condition, employment and unemployment, land utilization and yield survey, small-scale manufacture and handicrafts, transport, trade, profession, service and financial operation, income and expenditure, prices.
11.	August '56-January '57	Village statistics, housing condition, employment and unemployment and indebtedness of agricultural labour households, employment and unemployment of households other than agricultural labour households, land utilization and yield survey, agriculture and animal husbandry, income and expenditure, prices, weights, and measures in urban areas.
12.	March '57-August '57	Village statistics, vital statistics, housing condition, employment and unemployment and indebtedness of agricultural labour households, employment and unemployment of households other than agricultural labour households, land utilization and yield survey, production of milk and production and utilization of cattle dung, housing income and expenditure, prices, weights, and measures in urban areas.
13.	September '57-May '58	Village statistics, vital statistics, employment and unemployment, land utilization and yield surveys, income and expenditure, prices, reader's preference.
14.	July '58-June '59	Village statistics, population, births, and deaths, employment, unemployment, land utilization and yield surveys, small-manufacture and handicrafts, income and expenditure.
15.	July '59-June '60	Population, births and deaths, housing condition, employment, unemployment, land utilization and yield surveys, non-mechanized transport and utilization of working animals, non-registered trade, buildings construction (rural capital formation), consumer expenditure, prices.
16.	July '60-August '61	Population, births and deaths, family planning, housing condition, employment and unemployment, urban labour force, physically handicapped persons, ownership of land, operational holdings (rural) land utilization and yield, household indebtedness, consumer expenditure, prices.
17.	September '61-August '62	Population, births and deaths, morbidity, employment and unemployment, urban labour co-force, ownership of land and operational holdings, land utilization and yield survey, capital formation, consumer expenditure, prices.
18.	February '63-January '64	Village statistics, population births and deaths, migration, condition, urban labour force, land utilization and yield earnings from professions and literal arts, indebtedness of scheduled tribe households in Manipur, Tripura, income of rural labour households, consumer expenditure, prices.

Round No. (1)	Period of survey (2)	Subjects of enquiry (3)
19.	July '64-June '65	Village and block statistics, population, births and deaths, urban labour force, employment and unemployment and indebtedness of rural labour households, land utilization and yield survey, integrated household schedule, prices.
20.	July '65-June '66	Village and block statistics, population, births and deaths, housing conditions, urban labour force, employment and unemployment and indebtedness of rural labour households, land utilization and yield survey, integrated household schedule with employment trade and land utilization, prices.
21.	July '66-June '67	Village and block statistics, population, births and deaths, housing condition, urban labour force, land utilization and yield integrated household schedule (detailed and abridged) emphasis on land utilization, opinion on production, crops, prices.
22.	July '67-June '68	Village and block statistics, population, births and deaths, housing condition, number of pucca houses, urban land utilization and yield survey, integrated household schedule, farming practices, opinion on production of cereal, etc.
23.	July '68-June '69	Population, births and deaths, housing condition, pucca houses, land utilization and yield survey, manufacturing (household and non-household), integrated household schedule, opinion on production of cereal crops.
24.	July '69-June '70	Number of pucca houses, number of physically handicapped persons, land utilization and yield survey, non-registered distributive trade, integrated household schedules, opinion on production of cereal crops, prices.
25.	July '70-June '71	Statistical check on land utilization, indebtedness of salaried employee households in urban areas, economic condition of weaker section of rural population, integrated household schedule (revised), prices.
26.	July '71-September '72	Village statistics, number of pucca houses, land holdings, check on land utilization, debt and investment, consumer expenditure, prices.
27.	October '72-September '73	Seasonal migration, number of pucca, semi-pucca houses, employment and unemployment, consumer expenditure, prices.
28.	October '73-June '74	Population, births and deaths, morbidity, maternal and childcare, family, housing condition, normal health facilities in rural areas, disability, number of physically and mentally affected persons, number of new buildings, consumer expenditure, prices.

Round No. (1)	Period of survey (2)	Subjects of enquiry (3)
29.	July '74-June '75	Employment, unemployment and indebtedness of rural labour households, small-scale manufacture and handicrafts, mining and quarrying, trade, hotels, and restaurants, transport, service, construction, consumer expenditure, income, availability and extent of utilization of electricity in rural areas, prices.
30.	July '75-June '76	Village statistics, livestock number and products, consumption of livestock products, livestock enterprises, survey on railway travel, prices.
31.	July '76-June '77	Education in both rural and urban areas, survey on practices of Jhum cultivation in rural areas, household indebtedness survey in Himachal Pradesh, economic condition of urban slum dwellers, performance of irrigation, rural electrification, rural retail prices in north-east regions.
32.	July '77-June '78	Employment and unemployment, consumer expenditure, household integrated survey in north-east region, rural retail prices.
33.	July '78-June '79	Manufacture of cane and bamboo products for own consumption and household weaving in north-east region, unorganized manufacture, rural retail prices.
34.	July '79-June '80	Education, medical and health, unorganized sectors of trade, transport, hotels and restaurants, storage and warehousing and services, prices.
35.	July '80-June '81	Maternal and child care, family planning, education, medical and health, construction activity and social consumption, prices.

Sources: Savekshana, Vol. III No. 3, January 1980, p. 61-63.

A Comparative Statement on Census Economic Questions: 1960-1981

1961 Census	1971 Census	1981 Census
Reference Period:		
One year for workers in seasonal industry, 15 days in case of regular employment.	One year for workers in seasonal industry, one week in case of regular employment.	One year for all workers.
Classification Procedure:		
Classifies persons by asking them whether working as cultivator (C) agricultural labourer (AL) at household industry (HHI) or any other work (OW)	Uses sorting question to divide persons into the broad streams (i) workers and (ii) non-workers on basis of 'type of main activity that a person returns himself as engaged in mostly'.	Uses sorting question: 'Worked any time' at all last year?, to isolate workers irrespective of the amount of time that they spend on work. Workers further classified into main workers (working six months or month in a year) and others who are marginal workers.
Definition of worker:		
A person who is working may be working as C, AL, HHI or OW. 'The basis of work will be satisfied in the case of seasonal work... if the person has had some regular work of more than one hour a day for the greater part of the working season'.	Whether worked as C, AL, HHI or OW but basis of classification as worker restrictive since he/she would be a worker only if this is recognized (i.e., work as C, AL, HHI, OW) as his/her main activity.	'Participation in economically productive work'.
Classification of women:		
'For purposes of the Census a person is working as cultivator if he or she is engaged either as employer, single worker or family worker in cultivation of land or supervision or direction of cultivation of land'. 'An adult woman who is engaged in household duties but doing no other productive work to augment the family's resources should not be considered as working. If, however, in addition to her household duties she engages herself in work such as rice pounding for sale or wages or in domestic service for wages for others or grazing cattle or selling firewood or cow dung or grass etc., or any such work, she should be treated as a worker'.	Majority of women non-workers by main activity. (The question on gainful secondary work not properly canvassed.	Census instructions specified that questions be put to women regarding their work as cultivators, agricultural labourers, etc., but since these categories were not built into questionnaire itself, enumeration depended on the efficiency in implenting census instructions.

-47-

Selected Bibliography

- Accati, Eleva Garibaldi. 'Women's role in Horticultural Production in Developing Countries'. Paper prepared for Expert Consultation on Women in Food Production, FAO, August, mimeograph.
- Agarwal, Bina. 'Work Participation of Rural Women in the Third World: Some Data and Conceptual Biases' to be published in Kate Young (ed), Serving Two Masters, Routledge and Kegan Paul, UK.
- Agarwal, Bina. 'Agricultural Modernization and Third World Women: Pointers from the Literature and an Empirical Analysis'. World Employment Programme Research Working Papers, ILO, Geneva, May.
- Agarwal, Bina. 'Agricultural Mechanization and Labour Use: A Disaggregated Approach'. 1981 International Labour Review, January-February, Vol. 120, No. 1.
- Ahmed, Iflikar.. 'Technological Change and the Condition of Rural Women: A Preliminary Assessment'. World Employment Programme Research Working Papers, Technology and Employment Programme, ILO, October.
- Akillu, Delawit A. 'Appropriate Technology for Women in Food Production'. Paper prepared for Expert Consultation on Women in Food Production, September, mimeograph.
- Appacchu, Tara. 'Women and the Planning Process - a case study from India'. Paper presented at Inter-regional Seminar, INSTRA 5-11 December, Santo Domingo, Dominican Republic.
- Banerjee, Nirmala. 'The Role of Women Workers in Export Oriented Industries - five case studies in West Bengal'. Study sponsored by ICSSR, Indo-Dutch Programme, New Delhi, October, mimeograph.
- Bardhan, Pranab. 'Some Employment and Unemployment Characteristics of Rural Women: An Analysis of NSS Data for West Bengal 1972-73'. Economic and Political Weekly (EPW), 25 March.
- Batliwala, S. 'Rural Energy Scarcity and Nutrition: A New Perspective'. EPW, 27 February.
- Batliwala, S. 'Women in Poverty - The Energy, Health and Nutrition Syndrome'. Paper presented at Workshop on Women and Poverty, ICSSR and Centre for Study of Social Sciences, Calcutta, 17-18 March.
- Bhattacharya, Sudhir. 'Women's Activities in Rural India - A Study Based on NSS 32nd Round (1977-78) Survey Results on Employment and Unemployment', Part I, Study Report.
- Bhattacharya, Sudhir. 'A Note on Employment and Unemployment Concepts Adopted in the National Sample Survey', Report of the Committee of Experts on Unemployment Estimates (App. 1), Planning Commission, Government of India.
- Bose, Ashish et al. (eds), Population Statistics in India. New Delhi, (reprint). 1978
- Boserup, E. Women's Role in Economic Development. New York. 1970
- Buvinic, Mayra & Youssaf, Nadia H. Women-Headed Households: Ignored Factor in Development Planning, AIO/WID, International Centre for Research on Women, Washington DC.
- Caine, M. 'Class, Patriarchy and Structure of Women's Work in Rural Bangladesh'. Centre for Policy Studies Working Paper 43, Population Council, New York, mimeograph. 1979

- Chakravarty, Ashish K. 'Child Labour and the Transition Economy'. Paper presented at 1979 the Conference on Child in India, Delhi, 22-24 March.
- Chakravarty, Kumaresh. 'Regional Variation in Women's Employment: A Case Study of Five 1977 Villages in Three Indian States'. Programme of Women's Studies, ICSSR, mimeograph.
- Chari, S. et al. 'Sex Bias in Family Allocation of Food and Health Care in Rural 1981 Bangladesh'. Population and Development Review, Vol. 7, No. 1, March.
- Chopra, Kusum. 'Female Work Participation in the Three Crop Regions of India: An 1977 Inter-Temporal Study of Rural India between 1951, 1961 and 1971'. ICSSR Programme of Women's Studies, mimeograph.
- Chinappa, B.N. & Silva, W.P.T. 'Impact of the Cultivation of High Yielding Varieties of 1977 Paddy on Employment and Income'. B.H. Farmer (ed), Green Revolution - Technology Change in Rice Growing Areas of Tamil Nadu and Sri Lanka. The Mac Millan Press Ltd., London, Baringstok.
- Croll, E. 'Socialist Development Experience: Women in Rural Production and 1977 Reproduction'. Discussion Paper 143 Institute of Development Studies, University of Sussex, Brighton.
- Dantwala, M.L. 'Profile of Poverty and Unemployment in 12 Villages'. Indian Journal of 1975 Agricultural Economics, April-June.
- Das Gupta, Biplab. Agrarian Change and the New Technology in India. Report No. 77.2, 1977 United Nations Research Institute of Social Development, Geneva.
- Deere, Carmen Diana. 'The Agricultural Division of Labour by Sex: Myths, Facts and 1977 Contradictions in the Northern Peruvian Sierra'. Paper presented to Panel on Women: the New Marginals in the Development Process. Joint National Meeting of Latin American Studies Association and African Studies Association, Houston, Texas, 2-5 November, mimeograph.
- Department of International Economic and Social Affairs Statistical Office, and 1983 International Research and Training Institute for the Advancement of Women. 'Improving Concepts and Methods for Statistics and Indicators on Women'. Studies on Methods, Serial F, No. 33, UN, New York, mimeograph.
- Department of International Economic and Social Affairs Statistical Office and 1983 International Research and Training Institute for the Advancement of Women. 'Studies on Methods: Compiling Social Indicators on the Situation of Women'. UN, New York, Series No. 32, mimeograph.
- Dey, Jennie. 'Rice Farming Systems, Case Studies of Current Development and Future 1983 Alternatives in Mangrove, and Swamp Rice and Irrigated Rice'. Paper prepared for Consultation on Women on Food Production, FAO, September, mimeograph.
- Dixon, R. Rural Women at Work: Strategies for Development in South Asia. John Hopkins 1979 University Press, Baltimore.
- Dommen, E.C. ed. 'Estimating Non-monetary Economic Activities: A Manual for National 1974 Accounts Statisticians'. Prepared for the United Nations Development Advisory Team for the South Pacific, October, mimeograph.
- Evenson, Robert. 'Time Allocation in Rural Philippine Households', American Journal of 1978 Labour Economics, May, Vol. 60, No. 2.
- FAO. 'Follow-up to WCARRD: The Role of Women in Agricultural Production'. Paper 1983 prepared for the Seventh Session of the Committee on Agriculture, 21-30 March, mimeograph.
- Fong, Monica. 'Victims of Old Fashioned Statistics'. Ceres, May-June. 1980

- Goldschmidt-Clermont, Louisella. Unpaid Work in the Household. ILO, Geneva. 1982.
- Government of India. Office of the Registrar General & Census Commissioner of India, COI, 1971, Series I, India - Miscellaneous Studies, Paper I of 1974 (Report on Resurvey on Economic Questions - Some Results).
- COI 1971, Series I, India, Part II B (General Economic Tables).
- COI 1971, Paper 3 of 1972 - Economic Characteristics of the Population.
- COI 1971 Series I - India, paper I of 1975 (Scheduled Castes and Scheduled Tribes).
- COI 1971, Series 1 - India Paper 2, 1977 (Life Table).
- COI 1971, Series I, India, Paper 2, 1977 (Fertility Table).
- COI 1981, Tabulation Plan, New Delhi, 1980.
- COI 1981, Series 1, India, Paper 3 of 1981, (Provisional Population Total: Workers and Non-Workers).
- COI 1981, Paper 2 of 1983, (Key Population on Statistics Based on 5 Percent Sample Data).
- COI 1981, Series 1, India, Part II B (kk).
- COI 1981, Primary Census Abstract: General Population, 1983.
- COI 1961, Vol. IIB (General Economic Tables).
- COI 1961, Paper 1 of 1967.
- GOI, Ministry of Education and Social Welfare. Towards Equality: Report of the Committee on the Status of Women in India. New Delhi. 1974
- GOI, Ministry of Health & Family Welfare. Family Welfare Programmes in India, Year Book. 1977
- GOI, Ministry of Social Welfare. Report on Workshop on Employment of Women. 1978
- GOI, Ministry of Social Welfare. Handbook on Social Welfare Statistics. 1981
- GOI, Labour Bureau. Agricultural Sector in India, A Compendium of Basic Facts. 1968
- GOI, Labour Bureau. Report on Intensive Type Studies on Rural Labour in India: General Report 1967-70, Chandigarh.
- GOI, Labour Bureau. Rural Labour Enquiry 1974-75: Final Report on Employment and Unemployment of Rural Labour Households (Part I). Chandigarh. 1981
- GOI, Planning Commission. Report of the Committee of Experts on Unemployment Estimates. 1970
- GOI, Planning Commission. Draft Sixth Five-Year Plan, 1978-83.
- GOI, National Commission of Agriculture. Report - 1976. 1976
- GOI, National Sample Survey Organization. Employment, Unemployment Situation in India During the Seventies: A Comparative Study of the Results of the NSS 27th and 32nd Round Survey. 'Report on the Second Quasi-annual Survey on Employment and Unemployment - Survey Results - All India'. Report No. 293, October. 1981

- Grootaert, C. The Conceptual Basis of Measures of Household Welfare and Their Implied Survey Data Requirements. LSMS Working Paper No. 19. Development Research Department, World Bank, Washington.
1982
- International Labour Office. 'Recent Changes in the International Standards for Statistics of the Economically Active Population'. Paper prepared for presentation at the Working Party on Employment and Unemployment Statistics. Organization for Economic Cooperation and Development, Paris, October 1983. Bureau of Statistics, International Labour Office, Geneva, September.
1983
- ILO. 'Thirteenth International Conference of Labour Statisticians, Resolutions I & II'.
1982 18-29 October, Geneva.
- ILO. 'Labour Force, Employment, Unemployment and Under-employment'. Thirteenth International Conference of Labour Statisticians: Report II, ICLS/13/11, Geneva.
1982
- Institute of Social Studies Trust. 'Impact on Women Workers: Maharashtra Employment Guarantee Scheme - A Study'. Sponsored by Employment and Development Department, International Labour Organization, Geneva, mimeograph.
1979
- Institute of Social Studies Trust. 'Inter-State Tasar Project: Report on a Field Survey (Chandrapur Dist. Maharashtra)'. Mimeograph.
1982
- Jahan, Rounaq & Papanek, Hanna (eds). Women and Development Perspectives from South and South East Asia. Bangladesh Institute of Law and International Affairs, Dacca.
1979
- Jain, Devaki. 'The Importance of Age and Sex Specific Data Collection in Household Surveys'. Paper presented at Seminar on Household Surveys, Economic and Social Commission for Asia and the Pacific, 15-26 September, Bangkok.
1980
- Jain, Devaki. Women's Quest for Power - Five Indian Case Studies. Vikas, India.
1980
- Jain, Devaki. 'Women's Employment: Possibilities for Research'. Asian and Pacific Centre for Women and Development, Bangkok.
1980
- Jain, Devaki. 'Co-opting Women's Work and the Statistical System - Some Indian Milestones'. Samya Shakti, Vol. 1, No. 1.
1981
- Jain, Devaki. 'Patterns of Female Work - Implications for Statistical Design, Economic Classification and Social Economic Classification and Social Priorities'. Paper presented at the National Conference on Women's Studies, Bombay, April.
1981
- Jain, Devaki. Indian Women: Today and Tomorrow. Padmaja Naidu Memorial Lecture, 6 and 8 November 1982, New Delhi, January.
1983
- Jain, Devaki. 'Development as if Women Mattered or Can Women Build a New Paradigm?' Lecture delivered at OECD/DAE Meeting, Paris, 26 January.
1983
- Jain, Devaki & Chand Malini. 'Report on a Time Allocation Study: Its Methodological Implications'. Paper presented at Technical Seminar on Women's Work and Employment, 9-11 April, New Delhi.
1982
- Khan, M.E. & Ghosh Dastidar, S.K. 'Study on Women's Time-Use Data - A Ground Level Technology of Data Collection'. Paper presented at Technical Seminar on Women's Work and Employment, Delhi, 9-11, mimeograph.
1982
- Krishnamurty, J. 'The Growth of Agricultural Labour in India'. Indian Economic and Social History Review. Vol. IX, No. 3.
1972
- Krishnaji, N. 'Poverty and Fertility: A Revival of Theory and Evidence'. EPW, Annual Number, May, Vol. XVIII, Nos. 19, 20, and 21.
1983

- Lambart, Claire M. (ed). Village Studies: Data Analysis and Bibliography, (India 1976 1950-1975). Institute of Development Studies, Village Studies Programme University of Sussex, Brighton.
- Mazumdar, Vina. 'Women in Agriculture'. Indian Farming. November. 1975
- Mencher, Joan P. 'Lessons & Non-Lessons of Kerala: Agricultural Labourers & Poverty'. 1980 EPW, Special Number, October.
- Mehcher, Joan & Saradmoni, K. 'Muddy Feet, Dirty Hands: Rice Production and Female Agricultural Sector'. EPW, December. 1982
- Mitra, Asok. The Status of Women: Literacy and Employment (ICSSR Programme of Women's Studies II). New Delhi. 1979
- Mitra, Asok. 'Participation of Women in Socio-economic Development Indicators as Tools for Development Planning: The Case of India'. Unesco, Women and Development Indicators and Their Changing Role. Paris. 1981
- Mitra, Asok. Srimani, Adhir K. & Pathak Lalit P. The Status of Women: Household and Non-Household Economic Activity. ICSSR Programme of Women's Studies III, New Delhi. 1979
- Mukherjee, Moni. 'Contribution to and Use of Social Product by Women'. Paper presented 1983 at Workshop on Women and Poverty. ICSSR Eastern Regional Centre and CSSS, Calcutta, 17-18 March.
- Mukherjee, Mukul. 'Impact of Modernization on Women's Occupation - A Case Study of the Rice Husking Industry of Bengal'. The Indian Economic and Social History Review, Vol. 20, No. 1. 1983
- Nag, Moni. 'Impact of Social and Economic Development on Mortality: Comparative Study of Kerala and West Bengal'. EPW, Annual Number May 1983, Vol. XVIII, Nos. 19, 20 and 21. 1983
- Naga Brahman, D. & Shreekant, Sambrani. 'Women's Drudgery in Firewood Collection'. EPW, 1-8 January. 1983
- Natarajan, K.S. 'Child in India: A Demographic Profile'. Paper presented at the 1979 Conference on the Child in India, Delhi, 22-24 March.
- Natarajan, K.S. '1981 Census Data'. EPW, 21 August, Vol. XVII, No. 34. 1982
- Navera, Emeline Realubit. 'Time Allocation of Household Time Associated with Children on Rural Households in Laguna, Philippines'. The Philippines Economic Journal, Number 36, Vol. XVII, Nos. 1 and 2. 1978
- Oppong, C. & Haavio, Mannila E. 'Women, Population and Development' P. Houser (ed.) World Population and Development. Syracuse University Press, Syracuse. 1975
- Parthasarathy, G. & Dasaratha Rama Rao, G. 'Employment and Unemployment Among Rural Labour Households: A Study of the West Godavari Dist.' EPW (Review of Agriculture), December. 1975
- Paul, Jacob. 'Activity Profile of Indian Women'. Paper presented at Workshop on Women and Poverty, Calcutta, 17-18 March. 1983
- Powers, Mary. 'Compiling Social Indicators on the Situation of Women - Technical Report'. Statistical Office of the United Nations, New York, mimeograph. 1983
- Quizon, Elizabeth King. 'Time Allocation and Home Production and Rural Philippine Households'. The Philippines Economic Journal, No. 36, Vol XVII, Nos. 1 and 2. 1978

- Raj, Krishna. World Bank Staff Working Paper No. 234, April. 1976
- Rao, M.V.S. 'New International Standards for Statistics of the Economically Active Population'. Quarterly Bulletin of Statistics for Asia and the Pacific, Vol. XII, No. 4, December. 1982
- Safilios-Rothschild, Constantina. 'The State of Statistics on Women in Agriculture in the Third World'. UNSO, New York, mimeograph. 1983
- Saika, P.D., Gogoi, K. & Lekharu, Anjali. 'The Changing Role of Women in Rural Societies'. Research Project, Agro-Economic Research Centre for Northeast India, Jorhat, Assam, mimeograph. 1983
- Saradmoni, K. 'Women's Status in Changing Agrarian Relations, A Kerala Experience'. 1982 EPW, 30 January.
- Seal, K.C. 'Children in Employment'. Government of India, Ministry of Social Welfare. 1980 Profile of the Child in India: Policies and Programmes, New Delhi.
- Seal, K.C. 'Women in the Labour Force in India'. Women in the Indian Labour Force. 1981 Asian Employment Programme ARTEP, Bangkok.
- Sen, Amartya. 'Family and Food: Sex Bias in Poverty'. Oxford University. To be published in P. Bardha and T.N. Srinivasan, eds. 'Rural Poverty in South Asia'. Columbia University Press, forthcoming. 1981
- Sen, Amartya and Kunch, Jocelyn. 'Indian Women: Well-being and Survival'. Paper presented at Workshop on Poverty Indian Council of Social Science Research (ICSSR) and Centre for the Study of Social Sciences, Calcutta, 17-18 March. 1983
- Sen, Amartya and Segupta, Sunil. 'Malnutrition of Rural Children and the Sex Bias'. 1983 EPW, Annual number, May, p. 855-63.
- Sen, Gita. 'Inter-regional Aspects of the Incidence of Women Agricultural Labourers (district level) Employment and Earnings'. Paper presented at Workshop on Women and Poverty, Calcutta, 17-18 March. 1983
- Sen, Gita. 'Changing Definitions of Women's Work: A Study of the Indian Census'. Paper presented at Golden Jubilee Symposium on Women, Work and Society. Indian Statistical Institute, Delhi. 1983
- Sharma, Kumud. 'Policies for Employment Generation: Impact on Women'. ICSSR Programme of Women's Studies, mimeograph.
- Shrinivasan, K.N. 'Employment and Unemployment: An Assessment of Two National Sample Surveys'. EPW, 18 September, Vol. XVII (38). 1982
- Sinha, J.N. 'Rural Employment Planning Dimensions and Constraints'. EPW, Annual No. 1978 February.
- Sinha, J.N. '1981 Census Economic Data - A Note'. EPW, 6 February. 1982
- Sinha, S.K. 'Weaker Section of Rural Population: Some Results of Twenty-Fifth Round of the NSS'. Sarvekshana, Vol. 1, Vol. 2, October. 1977
- Sinha, S.P. 'Impact of Technological Development and Agriculture on Women in Rural Areas - A Two Village Profile'. Sponsored by ICSSR under Women's Programme, mimeograph. 1981
- Standing, Guy & Sheehan, G. eds. Labour Force Participation in Low Income Countries. 1978 ILO, Geneva.

- Swaminathan, Mathura. 'A Study of Energy Use Patterns in Garhwal, Himalaya. Background
1983 paper prepared for Technical Seminar on Women's Work and Employment, New York,
9-11 April.
- Thamarajakshi, R. 'Women in Indian Agriculture'. ICSSR Programme of Women's Studies,
mimeograph.
- Timberg, Thomas A. 'Micro and Macro Data in Village India'. EPW, 29 December.
1980
- United Nations Development Programme. 'Rural Women's Participation in Development'.
Evaluation Study 3, UNDP, New York.
- United Nations Statistical Office. 'Report of the Expert Group on Improving Statistics
1983 and Indicators on the Situation of Women'. Statistical Office of the UN, New
York, mimeograph.
- Visaria, Pravin. 'Employment and Unemployment in India: A Review of Selected
1970 Statistics'. Report of the Committee on Unemployment Estimates. App. II.
- Visaria, Pravin. 'Level and Nature of Work Participation by Sex, Age, and Marital Status
1983 in India 1961'. EPW, Annual Number, May, Vol. XVIII.
- Visaria, Pravin & Visiaria, Leela. 'Indian Households with Female Heads: Their
1983 Incidence Characteristics and Level of Living'. Paper presented at Workshop on
Women and Poverty, Calcutta, 17-18 March.
- Ware, Helen. Women, Demography and Development. Australian National University,
1981 Canberra.
- Whyte, R. & Whyte P. Rural Asian Women: Status and Environment. Institute of South-
east Asian Studies, Singapore.
- Youssef, Nadia. Women and Work in Developing Countries. Institute of International
1974 Studies, University of California, Berkeley.
- Youssef, Nadia. 'Improving Concepts and Methods for Statistics and Indicators on Women -
1983 Technical Report'. Special paper prepared for FAO (ESA/STAT/AC. 17/6 INSTAW
AC.1/7 April, mimeograph.