TECHNICAL SEMINAR ON

WOMEN'S WORK AND EMPLOYMENT

BACKGROUND PAPERS

Vol II

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Contents.

Technical Seminar on
WOMEN'S WORK AND EMPLOYMENT
9-11 April 1982

BACKGROUND NOTE

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BACKGROUND NOTE

This Seminar is the outcome of many previous events, the most recent being the National Conference on Women Studies that was held in Bombay in April 1981. One of the workshops in this conference was "Women and Work" which was attended by many of those who are contributing papers to this Seminar.

As expected many elements of this broad subject "Women and Work", such as under-enumeration, inappropriate conceptualisation of female work patterns, inadequate attention to the importance of women's economic activity to household survival, as well as to status, - and the inadequate or extremely tiny representation of women in economic and political institutions whether in trade unions and their leadership, or in management or in parties and panchayats, was discussed.

On the first two issues of data and evaluation there was debate ending in agreement and disagreement. It was evident that while many of the research workers and activists present recognised that more understanding was necessary of women's work, it was also recognised that further reflection and data collection and discussion was necessary before any clearer concepts and methodologies could be formally proposed .

Since that conference there have been further discussions particularly with the technical panel of the NSSO's 38th round (an employment/unemployment round following 5 years after the 32nd round) which is due to go into operation in January 1983;

as well as the Steering Group set up by the Planning Commission with the specific objective of improving the data and analysis of women's work.

The most vital concept which needs to be explored through research is the concept of work. Is all work employment ? How does one develop a meaningful definition of work ?

In the perception of the poor, all work is not employment. They may be surviving through free collection of goods, they may be working hard but their perception of employment is when they are rewarded regularly, preferably monetarily for their labour - leading to the statement that all employment is work, but not all work is employment.

It seems impossible to cut through the large body of theoretical and empirical questions and problems that crowd the examination of the subject of women's work except against specific uses - such as :

- the precise purpose for which we want to conduct any exercise - either discussion or investigation.

- the precise category of women for whom the exercise is being conducted.

If this purpose is not clearly stated, nothing more can be said about women's work except that they work a great deal, for more hours than men, and are, therefore, physically strained. Such a statement would be saying no more than the common place. In this Seminar it is hoped that we can forge the tools, the instruments, by which these concepts can be brought closer to reality.

Methodologies could be discussed not only appropriate to micro, carefully conducted surveys; but also which can be adapted by the large scale sample surveys or total surveys. There would be need to specify what kinds of techniques and methodologies are adaptable and what are not, from the point of view of the jump from micro insights to macro adaptation.

The nature not only of women's work, house-work and income earning work; as well as other aspects of female multiple roles and responsibilities arising from biology ; not only biology but culture and so on, require a thorough reconsideration of

methodology of survy. Hence one of the critical issues for those who are collecting data is not how much data but how the data was actually collected.

Obviously certain sets of data regarding people can be easily obtained. Take for example the first block of most socio-economic surveys which just counts the people in the house in terms of age and sex, martital status, relationships. This can be deemed pretty straight-forward.

However, anything beyond this set of data even pertaining to health, questions related to migrant labour, related to income, especially to expenditure, all harmless questions, are not as straightforward as they may seem.

A second focus for the Seminar also under the subject Methodology, is to comprehend and assess the differences between individuals based on age and sex, within families and households. How far is it important to note these differences; and if it is important what kind of methodologies separately and toghether, micro and macro, can be evolved to capture these characteristics ?

It is a pity, but it is true that knowledge of what is happening within the family, in the kind of detail that most of these questionnaires demand, is not a monopoly of the senior most, usually most articulate male member of the family. In a small, nuclear, urban, middle class household naturally one person would know and answer many of these questions accureately but in a large extended family especially of low literacy rural households, this is not a knowledge that is equally shared.

Another issue which escapes the perception of most data collectors and data users is the unequal access to knowledge and benefits not only between classes and therefore between households of the same locality, but within households between sexes and ages.

Unless quantifiable information is collected which reveals these inequalities, which identifies the special needs of different categories of the population, which sees the linkages between various pakages of benefits and the response, and utilisation of different sets of people not only by class but by sex sets and age sets there cannot be a wholesome development of the population - and distributive justice will be distorted.

In answer to such a plea it is often said that families are composed of relationships of protection and care and the head of the household would ensure to the best of his or her ability that the needs of the family, the distribution within the family were allocated according to a sense of justice and welfare.

In a recent meeting (January 1982) organised by the Indian Statistical Institute, Calcutta, Dr. A.K.Sen stated that while the concept of household inequality is known "in terms of policy, the problem of malnutrition and hunger can no longer be seen only as a matter of entitlement of the family, depending on the family's earning power and market command, and requires analysis of the division of entitlements within the family. The issue of social values - including what "divisive" questions are or are not posed (as discussed earlier) - becomes a central one, in this context.

Second, the gap between decisions of family heads and the well-being - introspective or not - of individual members of the family makes market data that much more difficult to interpret in terms of need satisfaction. The market demands would - at best - reflect the relative importance of different items as seen by the decision-takers ("revealed preference" cannot go beyond that, even if it can go so far as that). This calls into question not merely the traditional optimality results related to the market mechanism- for market socialism as well as for competitive capitalism - it also has far-reaching implications for public policy and planning using market information.

The question, however, is whether people in disadvantaged positions have all the options to do this kind of optimisation of welfare within the household. In a family with enough resources, individual access to education, information, goods and services, it is unlikely that there will be any harsh unequal distribution of material benefits. But low resource households do not have these options.

It seems, it sought to be the obligation of a planning machinery to support the low resource, low option communities and help them not to have to resolve their dilemmas, make their choices, by taking difficult unjust decisions between individual members of their family, as they are forced to by circumstances.

Children will be put to work as long as adults are paid too little to satisfy needs of a household. Women will eat less as long as there is not enough food in the family. But there is another unfortunate aspect of this phenomenon.

Merely raising adult wage will not give a household more food, more freedom to send children to school. At one level of stepping up increase in adult male income may increase only consumption of liquor and not food.

Hence information on who earns the income, who has control over it, what difference it has made to health of family, education of children, especially girls is vital.

There is a broad spectrum of such phenomena, not only work-force characteristics that need to be combed by data collectors, if they mean to serve policy and programme design.

Merged into these two, but even more difficult to notify is the question of giving values to non-monetised activities which are cloudy in a country with the kind of enemployment and underemployment and poverty that characterises India. Work becomes valuable through a recognition of its value and it has become conventional to equate recognition with monetary values - whether these are actual or imputed. So to the already rigid perceptions of women's roles derived from biology and attitude, is added the problem of poverty and unemployment which reduces any kind of possibility of postulating an opportunity cost. This is a zero option situation.

Yet the notification of all these three characteristics, as yet un-notified in statistics suggest that the theories of economic behaviour are certainly inadequate, as they are ignoring a critical piece of knowledge - whether it is for understanding employment behaviour including the behaviour of wages, understanding GNP and its changes, understanding the behaviour of consumption and savings and therefore the response to fiscal and monetary policy.

The issues which have been mentioned may look rarified unless seen in the context of certain specific classes of the population. It is amongst the low resource households, the assetless particularly, that many of these differences come out sharpest. In other worlds postulating the household as having homogeneity, where there is not much difference in access or absorption of goods and services and therefore can be treated as one unit,

is more a characterisation (though even here not a complete one) of the top income/asset deciles of the population. As one goes down the line, the stratification based on age and sex, the specification of tasks as well as shares, is sharper.

Hence in discussing the methodologies for notifying characteristics some of these mentioned above, the Seminar will be focussing on issues related to poverty, and those within poverty groups who are worst affected by poverty, namely women and children.

It is inequality within poverty which we notice , not only as based on age and gender, but also between castes and other classifications that needs to be deeply understood by economists, statisticians and others-if any of the philosophical or operational propositions they make are to have legitimacy. This Seminar hopefully would improve our understanding of one aspect of the issue of inequality within poverty and why it emerges.

From characterising female labour through analysis of secondary data, the sessions will move through perceptions of work which is specifically associated with women, its value/its nature, its linkages with the supply of labour to the market; on to methodologies by which these perceptions could be quantified.

Quantification in some cases could be difficult ; in some cases it may appear difficult because of the methodology followed. The session on ground level technology is an attempt to see how far the schedules that we use, the instructions we give to investigators are appropriate to socilogy and economic organisation of the households we investigate.

Are there some blocks which are more likely to be accurate than others ? When asking for a different set of data are we burdening the investigator or reducing his/her load ? In other words, the session would be an attempt to review the methodology used in the past, innovate new methodologies which improve the quality of data without putting a strain on the system, with the very same objectives of accuracy, administrative efficiency,comparability and practicability that would be important to large scale sample and census type surveys.

Finally by taking stock of the empirical work generated by micro surveys as well as the issues posed by those who questioned the concepts and definitions being used, it is hoped that the procedures by which information is collected on the socio-economic profile of the labour force would be improved.

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Background Note

VICTIMS OF OLD FASHIONED STATISTICS

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At least half of the women in the world are directly dependent upon agriculture for their livelihood. Most of these are engaged in subsistence agriculture, either entirely responsible for feeding their families or working together with men on the family or communal land. In many countries, especially in Africa, women are the mainstay of the agricultural economy as in other countries they are the core of the domestic economy, obtaining food, clothing and shelter for their families. Yet, even in Africa, the number of men employed in agriculture is estimated at almost twice that of women. For the whole world, the estimate of the number of men working in agriculture is 1.68 times that of women. In 1970, the International Labour Office (ILO) estimated that 287 million women in the world were employed in agriculture, while the corresponding figure for men was 481 million.

With the exception of a few countries, women who support themselves or their families as farmers or agricultural workers are statistically invisible. It is difficult to imagine how women who labour from dawn until dusk on weeding, hoeing, drying grain, tending chickens, carrying water, feeding their families and often also selling some fruits and vegetables in the market could not be counted as working and not contributing to the national economy. Yet, this is what national statistics often show. This statistical neglect is not without cost. Since they do not figure in national statistics, women are too easily excluded from the national development planning, with the result that development programmes directed to women are few. Programmes directed to men are at times directly contrary to the interests of women and consequently not well received, sometimes even sabotaged by women. The result may be a badly limping development effort that accentuates sex differences and fosters progress for one sex at the expense of the other, and often no development at all.

The reasons for ignoring women's work statistically are many and varied. In a large part of the world, it is the result of old-fashioned statistical systems, as ill-adapted to developing countries as they were to the colonies of the past. In other parts, it reflects the dichotomy between industrial and household production, between social and domestic labour, and the resultant tendency to split workers into two groups —the labour force and those outside the labour force— rather than measuring degrees of work. The reasons touch closely upon the definition of economic and non-economic activities, between activities to be measured and included in GNP and statistics outside its sphere. And, no doubt,

they also reflect, at times, a tendency to consider the activities of men more worthy of measuring and documenting than those of women.

To be meaningful, development planning must be based on adequate data for the entire population, not just the male half. Even estimates of agricultural output or gross domestic product per worker —rather straightforward procedures— cannot be made without accurate estimates of the agricultural labour force, i.e., both male and female workers. If large numbers of women active in agriculture are omitted from estimates of the labour force, this underestimate of the agricultural labour force will result in an overestimation of agricultural output and productivity per worker.

To get better data on women working in agriculture, particularly women active in small-scale and subsistence agriculture, we need a new statistical outlook using concepts, measures and methods of collecting and analysing data better suited to the work of women.

For a new statistical outlook to be useful, however, it is also important to bear in mind that it should produce data more useful for planning purposes; show greater sensitivity to the policy issues of development and the integration of women in development, in particular; be adaptable to a wide variety of local circumstances, yet be internationally comparable; and be compatible with existing measures of economic activity, both to provide comparability with the past and to be useful in the overall statistical system.

The need for compatibility with existing statistical measures suggests, paradoxically, that a system of statistics on women's work in agriculture must be built on standard measures of economic activity, however deficient these may have shown themselves to be in past practice.

TO FILL OUT A BARE PICTURE

Although women's work has special characteristics and measurement requirements that must be taken into account, special measures and questions on women can never be substituted for standard measures. Rather, they must be seen as an addition to basic labour force measures, to fill out an otherwise bare picture.

Standard labour force concepts have shown themselves deficient with respect to the very definition of economic activity and with respect to the whole range of agricultural work, seasonal work, multiple activities, 'women's work,' part-time work, work for payment in kind, work as

an unpaid family member, work done at home, work in the informal sector of the economy — agricultural or not. Since it is also in these types of work that so many women are found, expanding and refining traditional employment statistics on them will improve the coverage of women's work in agriculture.

In addition, the dichotomization of economic activity into two categories, the economically active and the inactive, too often tends to put women into the inactive category, even when they do some work. If, instead, labour force participation is viewed as a continuum, it becomes possible to collect and tabulate information on different amounts of work, and the less intensive involvement of women can more easily be documented.

Statistics on women may also be improved by adopting the "gainful worker" approach in combination with the "labour force" approach, particularly when it comes to seasonal work, which characterizes in large part women's work in agriculture. In the gainful worker approach, a person is considered economically active if normally engaged in an occupation for direct or indirect remuneration. The reference period is usually one year. In the labour force approach, on the other hand, a person is economically active if (a) at work for pay or profit during a specified brief period, either one week or one day, (b) with a job but not at work, or (c) unemployed.

The gainful worker approach is less apt to omit a woman's work because she was not working in the week preceding the survey, but in stressing usual activity, it sometimes tends to classify women as housewives and overlook their seasonal and intermittent work. Care should be exercised that seasonal work be recorded even when it is not a full-time activity and even when non-economic activities such as housework are performed more regularly.

The labour force approach, by recording the economic activity of the preceding week, can provide better coverage of work not done on a regular basis, but will miss all work, including seasonal work, not taking place in the reference week.

The two approaches should therefore be used to complement each other: the gainful worker approach to "catch" regular, including seasonal activities, and the labour force approach to record the entire span of activities, regardless of their frequency, of the preceding week. When the labour force approach cannot be repeated several times a year to cover the work of the entire agricultural season, it is particularly important that it be combined with the gainful worker approach.

In rural areas of developing countries, many people piece together a living by engaging in several kinds of work. A women may help with the harvest, make baskets and grow chillies, which she sells in the market for cash. A man may be a blacksmith but also own and cultivate land. Thus, unless a survey questionnaire probes for multiple work activities, working time, income and production may be under-reported for men as well as women. Since domestic duties occupy much of women's time, small-scale and short-duration activities are particularly easy to overlook, unless special care is taken to record them. Similarly, an investigation of activity patterns and time use will yield the necessary information on multiple activities.

A LOWER TIME LIMIT

Traditionally, those working less than full time are classified as part-time workers if working one third or more of normal working hours, usually not less than 15 hours. Those working less than 15 hours per week are usually classified as not economically active. Again, the large majority of these workers, classified as not working and not being in the labour force, are women. In order to include the work of women who are not even counted as part-time workers often because they were busy with housework and worked fewer hours than the usual minimum requirement for part-time work, it is in many cases useful to adopt a lower time limit for recording less than full-time work. In the measurement of underemployment, ILO has proposed the following categories of hours per week: less than 15, 15-34, 35-39, 40-47, 48 and over. Although these categories may be somewhat too precise for work in agriculture, adopting a categorization, including the less-than-15 category, would be especially helpful in "catching" more of women's invisible work.

It is also important to pay more attention to what constitutes work in agriculture — both in the monetized and in the non-monetized sector. Even when they are not responsible for a certain crop, women often help out or engage in a number of subsidiary activities in the fields and gardens. They also participate in a whole range of agricultural work within the confines of the home or farmstead that cannot be labelled "housework" and ignored statistically. Agricultural production, we must remember, includes, in addition to preparing the soil, sowing and harvesting, also weeding, tending, processing, transporting, storing and marketing the product, as well as harvesting and processing by-products of the main crop. In many cultures a large part of this work is done by women, along with the care of small animals, poultry or dairying. Not infrequently, women also provide services to others working in agriculture, e.g. cooking and transporting food to those working in the fields.

Such activities should be included in measuring work in agriculture and farming — not only because they are frequently performed by women, but also because they constitute an essential part of agricultural production. If emphasis is placed on statistics of work rather than of workers, these activities will naturally be included without undue strain on standard statistical concepts. A survey of activities or a time-use study is especially suited to collecting such data. In a regular survey, it is the work that women do as unpaid family work — often on a part-time basis when more labour is needed — work for payment in kind rather than cash, and work done at home that should receive the additional attention required to define and record it accurately, for it is an essential input to agricultural production.

Other easily omitted activities are those that are on the borderline between housework and economic work, e.g., raising chickens, cultivating vegetables near the house, processing food which is at least partly for sale, taking in laundry, knitting, weaving and the like. Since these activities contribute to the gross domestic product, they constitute market work. Omitting them lowers the employment estimates for women compared to those for men, for these borderline activities, by their very nature, tend to be women's work. To reduce this type of under-reporting, it is necessary to probe extensively by checking through a list of local agricultural activities or by a chronological recording of the activities of the preceding day.

NO LONGER AS RIGID

Whether to include "housework", i.e. cooking, cleaning and child care, as economic activity or not remains a major point of debate. Without settling this complex issue, it is nevertheless possible to suggest a solution as part of our overall framework. If economic activity is measured and tabulated as a continuum rather than as a dichotomy of those inside or outside the labour force, the distinction between housework and economic activity need no longer remain as rigid as before. Several different measures of time spent on work, housework or market work, may be devised, e.g. market production, home production and housework activities, or production intended for sale or for pay and for household or family use. The different types of work should be recorded separately and then tabulated separately and together. The dividing line between household production and market production has never been easy to draw, but when information on several different types of activity is collected and tabulated, the classification becomes less restrictive.

In getting better coverage of women in agriculture, efforts should be directed to a wide variety of statistical sources. Population or agri-

culture censuses must be complemented by sample surveys. It must be remembered that the different vehicles for data collection, whether censuses, surveys or even administrative records, lend themselves to collecting fundamentally different types of data. We cannot expect a census to produce a great deal more than a general overview and a sampling frame for later, more detailed analysis for separate areas or for the whole country. For instance, a 1-percent sample in a census or a national survey based on the census sampling frame can be used to obtain the further detail needed. However, even such surveys cannot be expected to provide all details for all data users. Although the national statistical systems with considerably expanded coverage and detail on women should always be the mainstay in data collection, small-scale and special surveys provide flexibility, independence and openness to new issues that are of value.

WITH REPEAT VISITS

The timing of the survey or census is also of importance in measuring the seasonal work of women. In order not to interfere with the busiest times of the agricultural year, censuses or surveys are often taken during the slack periods. Women who are very busy during peak-labour seasons but much less active in the slack season are then easily left out of the labour force. Ideally, surveys should be designed with repeat visits spread over the year. When this is not possible, the longer reference period of the gainful worker approach and the shorter reference period of the labour force approach should be used together.

In measuring women's work, the role of the inverviewer is of paramount importance. Without a thorough understanding on the part of the interviewer of the special problems in measuring women's work, conceptual innovations come to naught. It falls upon the interviewer to ascertain all the kinds of work women do, i.e. economic as well as non-economic activities. This distinction (which in practice has become a rather loose statistical construction around the basic concept of direct contribution of labour to the gross domestic product) is far too complex to be made by the respondent herself, or even by the interviewer, and should instead be made when data are coded and classified. This, of course, will also permit a less rigid set of classifications as already discussed.

But the interviewer must also be made aware that statistical tradition, his own expectations, a woman's eagerness to provide the expected and socially most acceptable answer, her husband's —and thereby also her own— social standing as the competent provider of the family, and the immediate expectations of those present conspire toward

the underestimation and statistical invisibility of women's work.

To overcome these difficulties, the interviewer must inquire about all of women's activities in detail. He or she must ascertain the type of crops grown and the kind of animals raised in the household, and specifically ask each women about work with each of these. Also, he or she must not be content with one answer but must probe by asking repeatedly about all the different types of work performed to ensure that the marginal or part-time activities that women so often do are included.

How the results are tabulated, finally, will make a significant difference in the information provided on the labour force participation of women. Making all tabulations by sex is a basic step in studying the work of women. Particularly when the work of women is investigated with the detail recommended above, tabulations by sex provide rather a complete picture of the agricultural labour force. Gross-tabulations for the various categorizations of pay, no-pay, cash-kind, family work, work outside the family, at home, away from home, etc. fill out the picture further.

By leaving the distinction of economic activity to the coding phase of the survey, a more precise and consistent definition of economic activity becomes possible. It is no longer necessary to use the rather artificial dichotomy between economic activity and non-economic activity. Rather, work may be measured in several degrees of intensity, also useful in the study of the utilization of labour, to complement as well as to expand upon the two-way classification of those inside and outside the labour force. Borderline activities may or may not be included in the count of economic activity and the results given together. Also, estimates of the labour force may be made cumulatively, so that the first activity only, then first and second activity together, and finally first, second and third activity together may be presented. Classifications of this sort give a considerably fuller and more correct account of women's many activities without losing comparability with the simple two-way classifications of the past.

THE SEXUAL DIVISION OF LABOUR

In addition, it is frequently useful to compare the two sexes on different aspects of work in agriculture through indices of percent female or the sex ratio, i.e. the ratio of males to females, on each item tabulated. For instance, the sex ratio of labour force participation, the sex ratio of unpaid family workers illustrate the sexual division of labour in agriculture.

In reshaping our thinking about development to combat poverty and improve the standard of living rather than bring about a mechanical increase in the GNP, it becomes essential to have data on the daily life and work of the population, including that of women. Because of the key roles that women play both in the sustenance of their families and the socialization of the young, in community affairs and in agricultural production, it is clear that statistics on the economic roles of women are an essential part of the data needed for both economic and social development planning.

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A STUDY OF ENERGY USE PATTERNS IN GARHWAL HIMALAYA

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PREFACE

Every time I have been up to the mountains for a holiday, I have encountered the hill people living in remote villages nestling among the steep hillsides, along the river valleys with snow-capped peaks visible on the horizon. Amongst them I came across some of the most hard-working peoples of this country.

Living in the mountains may have its natural charm, but for the poor who have to toil all day on the rough terrain, face the altitude and the cold with the bare minimum life is just one of mere subsistence achieved with much effort.

Having visited the Garhwal area before as a pilgrim to Badrinath and as a trekker, I decided to return on a pilgrimage to the villages. So I set out to study some of the problems of this area concentrating on their energy requirements and the manner in which these were met.

In Gopeshwar, I received not only help and inspiration for my work from Shri Chandi Prasad Bhatt and all the workers of the Dasauli Gram Swarajya Mandal, but guidance at every stage of my work.

I was welcomed with true Indian hospitality in all the village homes with a cup of tea and a friendly smile. I am grateful for the cooperation of the villagers of Dwing and Pakhi.

The plain-tive words of a Garhwali folk song come to my mind in which a young girl pleads with her father not to marry her to a man in the hills, for she knows it will be a hard life. I hope this study will be of some help in understanding the problems of such hill villages.

I am grateful for the Sri Ram fellowship given under the auspices of the Delhi School of Economics, which has enabled me to carry out this research project and gain greater insight into the nature of rural India.

A Study of the Energy Use Patterns in two Villages of Garhwal Himalaya.

CHAPTER-I

Today it is recognised that world is in the midst of an energy crisis. The energy crisis in rural India is of a very different nature from that of the developed world. This study was undertaken to learn about the economics of energy use patterns in villages of Garhwal Himalaya.

The problem I wished to study was to identify the kind and quantity of energy resources in use in the villages for domestic purposes, in agriculture and in industry. Further, keeping in mind the resources available in the area, I wished to consider the demands on energy resources in the future and the alternative ways in which these could be met.

The major task was to estimate the resources commonly used as energy in this area, and to estimate the cost of this in terms of rupees where purchased or otherwise. The next question was to assess the possibility of maintaining these consumption patterns in the future given the resources available in the area.

CHAPTER - II

Two villages, namely Dwing and Pakhi, were selected in the Chamili District of Garhwal, Uttar Pradesh. The villages chosen for the study had some clearly observable differences as will be shown later.

Secondary data was collected from several sources including the Forest Department, the Soil and Conservation Department and from some of the reports of the Dasauli Gram Swarajya Mandal. General data about the location, resources, and activities and occupations of the villages were gathered as shown in the questionnaire (Appendix A).

At the primary level, data was collected by the household survey method using the questionnaire given in Appendix B. Interviews were carried out in the homes and often in the fields.

The quantity of fuel or energy consumed can be used as an indicator of the level of development.

Some problems occurred in the estimation of quantities. The villagers speak in terms of rough approximations. Checks were carried out where possible, by weighing wood bundles (loads) on scales or checking the sale of kerosene in the register of the shopkeeper.

Lastly using the coefficients as given by the National Council of Applied Economic Research in their study on Energy consumption (Jan. 1980) some estimates for average energy consumption in a representative household were obtained in terms of kilo calories and coal replacement units.

This can be used for purposes of comparison of energy levels in villages as compared to towns in India and or consumption levels abroad.

Further where possible human energy has been estimated in terms of the number of man hours per day. However estimation of human and animal energy used in agriculture was beyond the scope of this study.

Another problem faced was in the estimation of the true cost of the resources used. For instance, where the market cost was exceeded by other costs, the effective cost was calculated. In the case of wood which was collected by the members of the household, the time spent in collection, i.e. the number of hours of labour spent was noted.

CHAPTER - III

Introduction to the Garhwal economy and the two villages.:

The Chamoli District of Garhwal is one of the five hill districts of Uttar Pradesh. The economy of this area has been popularly called a 'money order' economy for the villages are characterised by a large migrant population whose remittances home are a major source of cash income for the villagers. In Pakhi it was estimated that 50.8% of the adult male population was migrant i.e. not residing in the village practically throughout the year. The male/female ratio was 1:2.3 (i.e. amongst the resident population only in Pakhi).

Further, out of the resident male population only 13.3% gave agriculture as their main occupation, Thus the predominantly agricultural economy is run mainly on the strength of the women. The cropping pattern involves 3 crops in the year, the major cereals being rice,

wheat and munduwa. Alongside this, a variety of pulses and vegetables are grown. The yields are highly dependent on the weather, a good monsoon resulting in a good crop. There was no system of irrigation in either of the villages although a simple canal is now under construction in Pakhi. Fertilizer was barely used but substituted for by a plentiful application of gobar or animal dung. The villagers measured the amount applied by saying that they covered the field with a 4" layer of dung.

The cattle population is very high in these hills with an average of 4.7 cattle per family in Pakhi . In addition to this 68% of the households had atleast one pair of oxen. However the cattle are very poorly fed and give a very low yield, a maximum of 1-2 kg of milk per day. Other activities allied to agriculture, which have been introduced are horticulture and sericulture. The scope of the former is currently limited due to the lack of irrigation and marketing facilities. Sericulture, a seasonal activity, was able to provide some additional income especially in Dwing. One of the noticeable features of both the villages studied was the total absence of any form of industrial activity. Local artisanel activity was carried out on an individual basis by carpenters, blacksmiths, masons and bamboo basket weavers, wtih payments very often made partly in cash and partly in kind. Weaving and spinning are the most common skills and a high income earner for the Bhotiya or migratory people, who spend 6 months tending their sheep in higher pastures.

Even in Pakhi where there was a local market, many of the commodities and services are still exchanged under a simple barter system.

Lastly the village community is fairly homogeneous in terms of income disparities with an income range of only 1 : 3. There are three main castes in each village, the Dimris or the Brahmins, the Kstriya or Rajputs and the Harijans who are most of the artisans. Some of the Bhotiya familities (migratory people of Tibetan origin) who have now been settled in the villages were also interviewed.

Dwing and Pakhi

These two villages though similar in their general characteristics had certain significant differences. Dwing is a very small hamlet comprising only twelve housholds and situated in a less accessible location. Pakhi or Garurganga on the other hand had a population of eighty households and was an economically better off village as will be clear from

the table below. An additional disadvantage of Dwing was its location on the northern hill slopes giving it greater sunshine and making the soil more dry.

Item		Pakhi	Dwing
1.	Altitude	4000 ft. to 7000 ft.	5000 ft.
2.	Distance from District Hq. (Gopeshwar)	34 km.	50 km.
3.	Road	Major thorough-fare passing through	5 km. away from roadhead.
4.	Transport	By foot, animal and bus	Only by foot
5.	Market	Small market comprising a general store, a few teashops and a Govt. seed and fertilizer depot.	No village market nearest market at Langsi, 5 km. away.
6.	Range of land holdings	Upto 5 acres	Upto 2.5 acres.
Resources :			
7.	Water	Garurganga river, small streams, piped water for drinking	A stream 7 kms. away piped water for drinking.
8.	Forest	Above the village, 34.2 hs of Panchayat forest	Nearest forest is 5 kms. from the village.
Services:			
9.	School	Primary & Middle School	None. Nearest primary school 3 kms. away.
10.	Medical care	Homeopathic dispensary	None
11.	Electricity	Street and house lighting	Nil.

CHAPTER - IV

FINDINGS :

Energy Consumption in Village Pakhi :

The following is the complete list of all types of energy resources used in household, artisanal and agricultural activities in Pakhi :

1. Firewood : Firewood is used for nearly all household purposes and is mostly collected, though also purchased occasionally.

2. Kerosene : This is used for lighting purposes (in a lamp or petromax) in many houses, in their 'goshalas' or cowsheds and also for cooking in a few exceptional cases.

3. Electricity : The village is electrified, with provision of street lighting on a few streets and the main road. Electrification of homes is only partial.

4. Water energy : An indigenous use of water energy is made through the village built water-mills or gharats.

5. Wood Charcoal : This is obtained from burning wood and is then placed in Angithis or clayover and used generally for warming rooms in winter.

6. Chir or pine pith or chilla.

7. Animal energy : This is used for agriculture in activities such as ploughing. However the measurement of this was beyond the scope of this study.

8. Human Energy : Since all activities in the village including artisanal work have practically no mechanisation, there are very simple traditional techniques involving a high degree of labour intensity. Estimating this was also beyond our purview except in the case of firewood, where its cost was attempted to be estimated by the number of hours and days spent in the collection process.

Quantity and Cost of Resources :

1. Wood :

The main findings with respect to consumption of wood are summarised in the following table, concentrating on the domestic consumption i.e. mainly for cooking, space heating etc.

Size of the household	No. of houses	Consumption of wood kg./day		Purchased by (No. of household)
		Summer	Winter	
0-3	4	6	12	2
3-6	12	9.3	16.5	2
6-9	11	10.3	23	-
9+	2	18	36	-

Category 0-3 : Here the average wood consumption per day for household purposes was 6 kg. in summer and doubled to 12 kg. in winter. There is high variability even within the group with two households purchasing wood, one of them being a lone male teacher and the other a single woman with sufficient outside income.

3-6 : Here the per day consumption varied from 9.3 kg. in summer to 16.5 kg. in winter, excluding two Bhotiya families in this size group. The Bhotiya families had a markedly lower use of wood, a determining variable being their pattern of food habits for they generally cook 2 meals a day while all the other families cook 3 meals a day. Being migratory people, these Bhotiya families had only a small land holding in this village and may be therefore using cowdung cakes as a source for water heating and space heating also, a practice not followed by the others.

Further, two households in this category also purchased fire-wood to supplement their collection and both happened to be the relatively better off and upper caste Dimri households.

6-9 : As is clearly noticeable, with increasing members consumption of wood increased to an intake of 10.3 kg. in summer and 23 kg. on a winter day. None of these households ever purchased any wood, one possible reason being that a large family could afford at least one member for the task of collection.

9+ : Average use of wood per day here was as high as 18 kg. and 36 kg. in summer and winter respectively. Again no household in this size group purchased any firewood.

Correlate : One result which follows very clearly from above is that household size is the major determinant of the quantity of energy used. Each size group contained cross section of incomes and no significant differences existed between poorer and richer families with the same number of members.

Cost :

(a) Purchase : Only 13.7% of the households (from the given sample) purchased firewood at the rate of Rs.0.20 P per kg. (which is remarkably cheap).

However except for one single teacher who purchased all his household requirements, purchase was only supplementing the needs in the other families, as in winter when a larger amount was required. Noticeably all these families belonged to the upper class and caste of the village.

(b) Collection : Since in the majority of houses, this is the mode of acquiring their daily energy requirements, an attempt was made to impute a cost to this by surveying the characterstics of the collector, the load carried, the distance travelled, the hours taken and the number of trips on an average.

Collection

i) Collector : In 86.3% of the households sampled, only the women went out to collect firewood. In three households, both men and women collected it; while one was the case of a widower who had to do all the collection himself. Out of the other three, significantly two were Bhotiya families (where collection was not daily) .

ii) Weight : On an average, the load of wood carried per trip was found to be 24.5 kg. with a range from 18 to 40 kg. though the majority carry at least 20 kg. As women begin heavy work 15-20 days after childbirth, and continue to carry a load even as they grow old, it is only such factors which may lead to their carrying a slightly lighter load than normal at times.

iii) Distance and time : For the village as a whole, the average distance to be travelled to collect firewood is 3.1 km. taking an average of 4 hrs. However, the true picture is more diverse. The village of Pakhi extends over an area ranging from 1500 m to 2400m above sea level in height. The village has its lowest houses along the main road and extends up the mountainside. Further the residential sites are quite widely spread. Above the houses perched farthest up on the hill slope and at the end of the village boundary proper lies the forest. Thus the distance from the forest is determined by the geographic location of the house in question. The following distribution illustrates this :

No. of hrs. spent in collection	Distance travelled	No. of households	% of households
1-2	0.1 km.	3	12.77
3-4	3	15	51.0
5-6	4	8	27.5
7+9	5+	2	0.87

NB : A map of the Area is given in Appendix C.

iv) Trips : In more than 50% of the households a daily trip is made to collect wood. Each household on an average makes 2 trips in 3 days. Seasonal variations are noticeable; in winter, more wood is needed. Whereas in some of the lean agricultural months like April, wood is collected oftener and stored for later use (in monsoon months etc.). Roughly trips to collect wood are made on 263 days of the year.

2. Kerosene :

The consumption of kerosene follows the given distribution :

Size of household	No. of houses	Quantity of kerosene in litres per month	Used for cooking by
0-3	4	2.5	2 houses
3-6	12	3.7	2 "
6-9	11	4.6	-
9+	2	2.5	-

From the above table it is evident that only 4 out of the 29 sample households used kerosene in stoves for cooking. The major use of kerosene is for lighting purposes. The average consumption is quite small being equal to 3.8 litres per month.

Kerosene when available in the village market sells at the rate of (roughly) Rs.2 per litre.

3. Electricity :

Only 34.47% of the households had electric lighting in their homes. Apart from a few people who complained of Government inaction in laying subsidiary lines and installing meters, most of the others did not desire electricity. Electricity is only used for lighting and many households give a low priority to making cash payments for the use of electricity.

The average bill came up to Rs.10.90 p per month at the rate of 53 p. per unit which is higher than the rate in Delhi (Roughly 30-40 p. per unit). This is because the electricity is generated in the plains and the power supply then carried up to the villages.

The use of electricity can be popularised as the alternative i.e. kerosene, is also quite expensive. However even

electrified houses have to keep some kerosene for emergency uses such as power failure which are quite frequent, in reality.

4. Pine-pith :

6.8% of the households used neither kerosene nor electricity for lighting but made an ingenious use of the pine pith which burns like a candle and is collected from the forest.

5. Water mill or Gharat :

There are around 6 privately owned water mills on the Garurganga river which serve the needs of the surrounding villages for grinding of their flour. The mill is entirely constructed with local materials and skill. A sketch of the unit and its working is given in Appendix D.

The productivity of all the mills is similar, it being possible to grind 5 to 6 kilograms of flour in an hour.

Payment is made in kind i.e. one tenth of the quantity of ground flour is left for the mill owner. The daily earnings on a water mill vary from a minimum of 4 kg. to 15 kg of flour.

N.B. : Some quantitative estimates of the total energy consumption are given in Appendix E.

CHAPTER - V

Energy consumption in the Village Dwing :

The only kind of energy sources used in the manifold activities of this village are listed below. Animal and human energy, the estimation of which was too complex for this study has been excluded. The human energy used in the collection of firewood, the predominant fuel of this area is included but not attempted to be calculated.

1. Firewood : This serves as a fuel for practically all domestic purposes. Most homes burn wood in an open chulla.

2. Kerosene : This is used in small spirit lamps or petromax lanterns and serves about ninety percent of the lighting needs of the villagers.

3. Water energy : The traditional water mill is used for grinding although roughly 25% of the grinding of cereals is done by hand.

4. Pinepith (Chilla) is an indigenous source of lighting.

Quantity and Cost of Resources Used :

1. Firewood : The following table summarises the use of firewood in the households of Dwing :

Size of the household	Number of houses	Quantity of firewood (in kilograms) per day		Number of chulas.
		Summer	Winter	
0-3	1	8	18	1
3-6	2	9.5	20	1
3-9	4	15	24	1
9+	1	25	45	3
	Average 14			

A glance at the table shows that the quantity consumed varies directly with the size of the household, which here is the number of resident members of a family. Secondly, the quantity used in winter is generally double the summer time consumption. Keeping a fire burning all day and sitting around it provides the only source of warmth in the cold season.

Another variable investigated was the number of chulas. However, only one large family had more than one chula and thus no significant relation seems to emerge between a greater number of chulas and larger consumption of fuel.

Cost :

1. Purchase : None of the households ever purchased any wood and thus the cost of this fuel will have to be entirely imputed in terms of the labour costs.

2. Collection : Some characteristics of the process of collection of fuelwood are given below .

i) Collector : In 75% of the households sampled only the women went out to collect wood and in the remaining both the men and women undertook this task.

ii) Distance : Since there is no forest in the vicinity of the village, the people have to travel atleast 5 km on a steep uphill climb taking anything from six to ten hours. On an average, 7.2 hours are spent in making one trip to the forest to collect wood.

iii) Load : On each trip an average of 25 kilograms of wood is carried back, as a bundle on the back.

iv) Trips : For many of the villagers this is a daily task though on an average three trips are made every four days or to put it differently, a trip to collect wood is made on 261 days of the year.

2. Chilla (Pine pith) :

This is used for lighting purposes in some households. It is collected when bringing wood home. A few poor households use only this for lighting their homes after dark .

3. Kerosene :

Kerosene is used only for lighting and not in stoves for cooking or for any other purpose in these households. On an average 3.8 litres of kerosene are spent per month by a representative family. In short the consumption of kerosene per month per person equal 0.8 litres.

Cost :

The controlled price of kerosene is Rs.2 per litre but the effective cost to the villages is often higher. Firstly, the kerosene is not always available in the nearest village market which is at Langsi, 5 kms away. Often one has to go all the way up to Joshimath, a distance of 20 kms costing Rs.3 on the bus to travel there one way. Many a time an entire day is

spent in going to the market and making the purchase. Thus the costs of one labour day is the opportunity cost of buying kerosene in such a case. It is such factors which lead to a very parsimonious use of this fuel.

4. Water mill :

The construction of the traditional water mill has been described earlier. Payment for its use is made in kind and equals one-tenth of the flour ground in the mill.

An additional cost is incurred by the villagers of Dwing for every round of flour grinding due to the location of the water mill on the Patal Ganga river which is 8 kms away. An entire day from dawn to dusk is spent in making a trip to the mill and getting one's flour made. Further the only mode of travel is by foot which limits the quantity of grain which can be carried at a time.

Many people thus prefer the arduous task of grinding wheat by hand and continue to do so to supplement the mill grinding.

CHAPTER VII

CONCLUSIONS :

A discussion of Alternatives: We can now look in greater depth at the main finding which emerge from this study and attempt to evaluate the possible energy paths which can be sustained in the future.

As is evident by now, these two villages reflect the poor economic condition of the area, where the people manage to eke out an existence after putting in a tremendous amount of effort. In many a household the women spend eight hours just in the process of firewood collection. When what is considered a normal working day all the world over ends, these women have only accomplished the first of their day's tasks.

The quantitative estimates of the energy consumed portray the low level of energy used, relecting the low level of economic development. The major energy sources are firewood and human labour, with limited use of kerosene, electricity and charcoal. The water mill is the only local method of harnessing water energy.

The issue for study is how to arrive at a satisfactory balance between the divergent needs of : (a) increasing energy demands on the forest leading to denudation and ecological imbalances, (b) lowering of the drudgery of the women and (c) diversifying the income base of the economy.

The alternative possibilities can be discussed under the following heads :

1. Design :

One of the most obvious points which suggests itself is an improvement in the design or model of the Chula commonly in use in order to improve the efficiency of use of wood. Currently only 5-11% of the energy is utilised in the chula. The ideal chula should satisfy the following criteria : be smokeless (smoke is an inevitable complement to heating), be best designed for cooking and provide space heating since this is the only possibility of room heating .

2. Commercial Fuels :

What alternative fuels can be provided if one desired to curb the use of firewood both to reduce women's burden and forest denudation ? One has to remember that the cash income of these villagers is very low and often nil and hence an expensive commercial fuel has no place here. The prices of kerosene, cooking gas etc. are rising at an exponential rate. Electricity could be a viable alternative ; however current use patterns show a very low demand, reflecting the fact that there has been no cultural or economic change which has necessitated a greater use of electricity. At present the generation is also from far away centres (leading to a relatively higher rate), whereas setting up of micro hydel units may be more beneficial as and when more local industries are set up. The cost or budget constraint is thus important where purchase of commercial fuels is concerned.

3. Gobar Gas :

The gobar gas plant has been a much talked of alternative. At first glance the high level of cattle population per family (which averages 4.7 i.e. only cows and bufalloes in Pakhi, where 68% of households have also at least one pair of oxen) would imply that sufficient dung would be available to run the

plants. Apart from the question of having an appropriate model for the hills, taking account of the effect of cold weather on the process, and the different materials which might have to be used in the construction of a plant, there are some other fundamental problems involved. Firstly, apart from the Bhotiya families, the others do not traditionally use cow dung as a fuel in the house. A few 'uppale' or dung cakes are made but used in the fields, burning them to drive away insects or to burn in the cowsheds. This is a practice which social scientists would have to consider. Secondly, gobar at present is used plentifully on land and is the only form of manure used. The villagers themselves were not keen on using the cow dung in any other form (may be as it is more economical for them to use wood at present). Of course the slurry from a gobar gas plant can still be used as manure. Thirdly, the firewood used for cooking serves the double role of providing heating and light at the same time. Any fuel replacing it would have to satisfy all these conditions. Recent research in this field shows that Gobar gas plants can be easily used upto an altitude of 5000 feet but the imminent task is to spread the technology and make the relevant information available to the people. Care has also to be taken to try and keep the costs of these units as low as possible.

4. Energy Plantation :

In the long run, the most satisfactory measure seems the establishment of energy plantations. Firewood is a renewable resource and even forests can be managed by planting trees and cutting others in a regulated fashion. Firewood can thus continue to be a cheap energy resource. Without this management, growing needs will lead to a steady depletion of forest wealth and ecological crises, which are often noticed only after the occurence of a disaster.

Reviewing the situation of this economy as a whole, any improvement in agriculture or allied activities first and foremost, a reduction in the drudgery of the hill women. And one of the most back-breaking tasks of these women is collection of firewood. Thus making wood or any other fuel more easily accessible is a necessary step to release their time and energy for their economic improvement. Further, an overall strategy of development would need to harness both men and women to the tasks of development. The situation

is complex. Fuel and fodder collection as well as agriculture have traditionally been the province of women and this is likely to continue; therefore their effectiveness in agriculture and dairying can only increase if these burdens are reduced. Men play a limited role in agriculture and help hardly at all in fuel and fodder collection. On the other hand, due to few income-earning opportunities for men in the villages there is a large out-flow of manpower to the plains. The existing manpower of the region is also under-employed at present. Thus creation of employment whether self-employment in agriculture and allied fields or wage employment in forest-based industries to attain an efficient use of available labour and to widen the productive activities which will raise the standard of living.

To sum up, the position regarding energy consumption is as follows. Among the different sources, firewood is the most important. Depending upon the distance of the forest from the dwellings, the women spend anything from 5-10 hours in the collection of this wood. With a growing population and industrialisation, demands on the forests will increase and with the dis-appearance of woodland lead to ecological imbalances, such as soil erosion and lack of water retention. While seeking alternatives, one has to look at the problem both in a short-term and a long-term perspective.

Long-term solution :

In the long run, the ideal solution would be the establishment of energy plantations. These will take at least another 8-10 years to mature especially since the growth rate of trees is lower in the hills. With well-developed forests, other energy products like charcoal and ethanol could also be obtained. One must also begin a proper management of forests by cutting and planting trees according to a scientific schedule. The work of tree plantation has already been initiated in this area by the Dasauli Gram Swarjya Mandal. Some details are given in Appendix G.

An accelerated programme of mini-hydel should be under-taken both to serve flour-grinding and human consumption. In the long run, rural electrification which is already under the Minimum Needs Programme is essential. It will take a long time as yet to electrify all the villages in the country and further supply current to all the houses in a village.

Short-term solution :

Among other energy sources, either kerosene or charcoal should be provided at reasonable rates to the households under the Minimum Needs Programme. Only when this is done, will the preconditions for a successful campaign of tree planting and conservation be met. There is no single magic solution, but an appropriate blend of several strategies is needed to solve the fuel problem. Also the active participation of the people in development via the political system and their own social organisation will be necessary for managing the energy supply system in an ecologically sound manner.

SUMMARY

The main lessons from this study are summarised in the Table 1 and 2.

TABLE - 1

People's Need	Current Practice	Alternatives
1. Fuel	Firewood	1. Short-term - coal. Charcoal, Kerosene. 2. Long-term - Energy plantations and mini-hydel.
2. Fodder	Plant wastes and forest leaves, grass.	1. Short-term - Establishing fodder bank with fortification of cellulose wastes. 2. Long-term - Planting broad-leaved species and fodder shrubs.
3. Fertilizer	Dung	Making fertilizers available to supplement the use of dung.
4. Food	Subsistence farming i.e. cultivation of food grains on even steep slopes and marginal lands.	1. Short-term - Better public distribution system for food. 2. Long-term - Shifting land use to pastures, orchards, forests. 3. Improving milk yield of cattle which at present mainly supply dung.
5. Water	No irrigation. Running water (rivers and streams) with danger of flooding.	1. Short-term -Introducing water harvesting methods and water conservation. 2. Long-term - Increasing forest area to help water retention and soil protection.

TABLE - 2

Practice	Social	Ecological or Economic
1. Firewood collection	The time spent by women is anything from 2 to 10 hrs. a day. Burden of heavy drudgery placed on women, their carrying of heavy loads of wood etc. affects women's health.	When dead wood or twigs are exhausted, they have to resort to some tree-cutting, resulting in dwindling of forests. Insufficient rights in forests leads to encroachment on reserved forest.
2. Subsistence farming.	Outflow of men from the villages. Agriculture run entirely by women.	Area under cultivation is rising and the use of unsuitable lands such as steep slopes leading to ecological problems like a decrease in water retention capacity.

APPENDIX - A

Questionnaire No. 1 — Village Level Data

1. Name and Location
2. Altitude
3. Total Population — Male — Female
4. Number of households
5. Distance to-roadhead — to Dist. Headquarters
6. Resource Endowment

A. Water	Nature of Source	Distance from village	Discharge rate

B. Rainfall (yearly average)

C. Solar energy :

	Winter	Summer
1. Mean Temperature	Oct-April	May-Sept.

2. Average no. of cloudy days in the year during period of study.
3. Total annual snowfall

D. Land use within range of kms. of village

1. Area cultivated by villagers
2. Area left fallow this year
3. Built-up area
4. Non-cultivable land

Appendix A (Contd.)

E. Soils A B C D E F

F. Forests

	Panchayat Forest	Civil Forest	Reserved Forest
1. Area			
2. Distance from village			

G. Trees (in area of km. surrouding village)

Type	Number

I. Any other natural resource .

7. Occupation/Income-earning activities :

A. Agriculture :

Name of crop	Marketed/ Not	Fertiliser Used/not	Irrigated/ Not	Average yield per acre

Number of crops sown every year

Types of irrigation used.

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Name of crop	Marketed/ Not	Fertiliser Used/not	Irrigated/ Not	Average yield per acre

Number of crops sown every year

Types of irrigation used.

Appendix A (Contd.)

B. Agriculture-related activities and processing.

C. Commercial (services and transport)

1. Shops Types No.

2. Professional services

3. Transport : Whether bus service available or not

Frequency of bus service

Animal transport

D. Small-scale/cottage industry

Name of industry	No. of establishments	Nos. employed

8. Housing by types Kucha Pukka

9. Political unit

10. Public utilities Yes/No

Primary School
Middle School
Dispensary
Street lighting
House-lighting
Post Office
Any other

11. No. of adult literates Male Female

APPENDIX - B

Questionnaire No.2

Household Data

1. Name of Respondent

Head of household or not.

2. Composition of households :

Name	Sex	Age	Resident/ Migrant	Occupation

3. Energy Uses of Households :

A. Domestic Use

Name of use	Source Summer	Source Winter	How obtained	Cost/ Price
1. Cooking				
2. Water heating				
3. Space heating				
4. Lighting				
5. Grinding/household processing				
6. Any other.				

Number of meals cooked per day
Number of chulas
Description of food eaten at typical meal :

	Summer	Winter
Number of cattle owned		
Number of other animals		

Appendix B (Contd.)

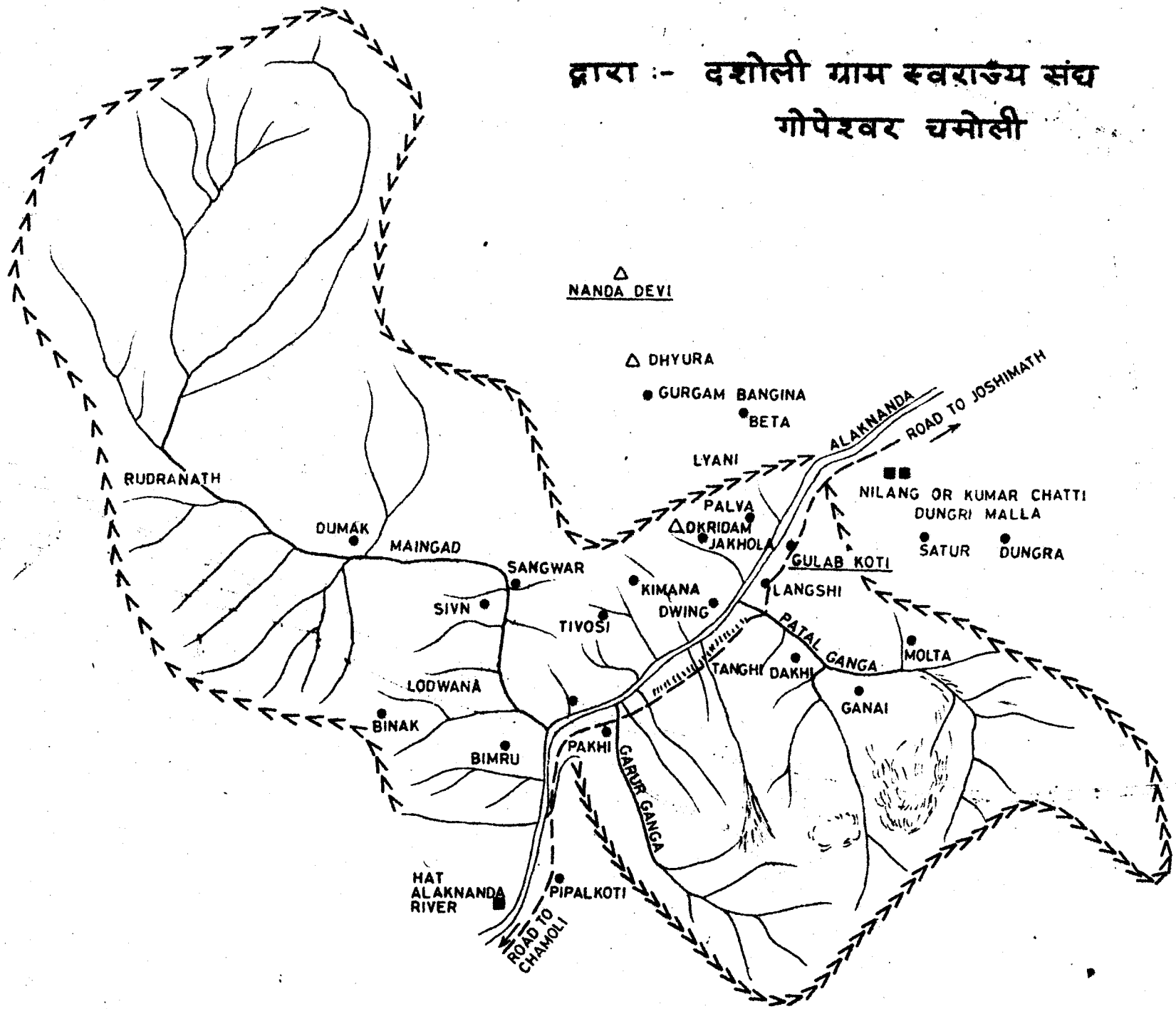
B. Use of Energy in agriculture and allied land water based occupations:

Name of crop	Land owned by household: Fertiliser Type	Fertiliser Amount/Cost	Cultivated: Irrigation Type	Irrigation Amount/Cost	Fallow: Tools Type	Tools Number

C. Use of Energy in all other non-domestic uses :

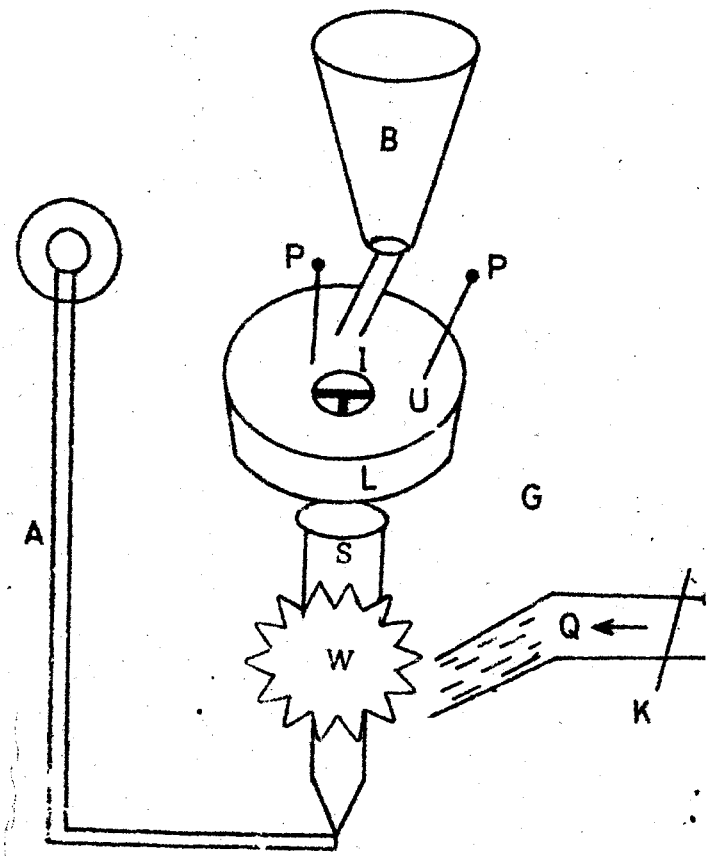
Name of Use	Human Energy: No. of persons	Human Energy: Hours per day	Animal Energy: No. of Animals	Animal Energy: Hrs. per day	Other Sources: Nature of source	Other Sources: Amount

D. General Remarks.


द्वारा :- दशोली ग्राम स्वराज्य संघ
गोपेश्वर चमोली
NANDA DEVI
DHYURA
GURGAM BANGINA
BETA
ALAKNANDA
ROAD TO JOSHIMATH
LYANI
RUDRANATH
PALVA
NILANG OR KUMAR CHATTI
DUNGRI MALLA
DUMAK
OKRIDAM
JAKHOLA
SATUR
DUNGRA
MAINGAD
GULAB KOTI
SANGWAR
KIMANA
LANGSHI
SIVN
DWING
TIVOSI
PATAL GANGA
MOLTA
TANGHI
DAKHI
LODWANA
GANAI
BINAK
PAKHI
BIMRU
GARUR GANGA
HAT
ALAKNANDA
RIVER
PIPALKOTI
ROAD TO
CHAMOLI

APPENDIX - 'D'

The Watermill OR Gharat



PARTS

B	=	Bucket
O	=	Outlet for grain
U	=	Upper Chakki OR stone crusher
I	=	Iron piece on top of shaft
L	=	Lower Chakki
G	=	Ground wheat
S	=	Shaft
W	=	Wooden wheel with Spokes
Q	=	Water canal
K	=	Water lock
A	=	Lever system
P	=	Wooden pieces

Working : Water is channelled from the river through a canal and turns the wooden wheel, rotating the shaft and the iron piece on top which in turn moves the upper chakki. The lower chakki is fixed and the grain coming through the bucket gets ground. The rotation of the chakki itself moves two wooden pieces which allow a regular flow of grain out of the bucket. Roughly 5 to 6 kilograms of wheat is ground in an hour. The lever system can be moved manually if the two halves of the chakki need to be brought closer together for finer grinding.

Appendix 'D' (Contd.)

Cost : An initial investment of Rs. 1500 is made on the construction of the mill, built entirely by the village artisans. In addition a monthly maintenance cost of Rs. 200 and a yearly tax of Rs. 50 is borne.

Returns : A mill owner can earn anything from 4 kg. a day to 15 kg. a day in terms of the flour ground. For computing money values it may be noted that a kilogram of wheat flour sells for at least Rs. 2 in the market.

APPENDIX - 'E'

Some Estimates of Energy consumption in Pakhi.

Average consumption of wood per day per household :

9.8 kg (Summer) and 19.6 kg (Winter)

Average consumption of kerosene per household = 3.8 litres per month

Using the co-efficients of NCAER study on Energy i.e.

1 kilogram firewood = 4700 kilo calories

and 1 litre kerosene = 8547 kilo calories

∴ average consumption of both resources per household per day = 46061 kilo calories in summer and = 92121 kilo calories in winter.

Further 1 kilogram firewood = 0.70 coal replacement for an open chula (CR)

1 litre kerosene in lamp = 2.10 (CR)

∴ average consumption of both resources per day per household = 7.14 CR in summer and = 13.9 CR in winter

APPENDIX - 'F'

Afforestation projects in Pakhi and Dwing have been undertaken by two agencies :

In Pakhi :

i) Alaknanda Soil Conservation Department :

Beginning in 1977/78, they had planted an area of roughly 33 hectares with seedlings of pins, mulberry, oak, Bhimal etc. However the rate of survival is not very high on these plots,' no information was collected or available concerning the growth of these seedlings.

ii) Dasauli Gram Swarajya Mandal :

This voluntary organisation, which has been initiating and leading the Chipko movement in the Garhwal area have also been carrying out a constructive programme of afforestation. From 1978 onwards they have been providing saplings to be planted in the village, have run 'ecology' camps and associated the villagers whole-heartedly with the planting and management of the trees as they mature.

In Dwing :

i) The Alaknanda Soil Conservation Department has planted more than 50 hectares with a variety of trees. Howver on visiting the village, there was no evidence of the growth of these seedlings. The villagers had not seen any Department official in the vicinity of the area for a long time.

ii) The Dasauli Mandal has undertaken afforestation work in this village from 1980 and have about 750 trees developing at present. Several varieties have been planted including willow, mulberry, citrus trees, walnut and Bhimal.

Technical Seminar on
WOMEN'S WORK AND EMPLOYMENT
9-11 April 1982

Background Note

WOMEN & WORK

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MEASURING WOMEN'S WORK

> There are .. two facets to a basic-needs strategy for women in developing countries. One is to enable them to contribute more effectively to the satisfaction of their families' basic needs, within the framework of their traditional responsibilities. The other, which is a fundamental need of the women themselves, is to ease their work burden while furthering their economic independence and their more equitable integration into the community, beyond the narrow circle of the family.
>
> Especially in the rural areas, most women in developing countries are overworked rather than underemployed, and a more appropriate technology for the tasks they perform implies labour saving, in order to improve the quality of their employment, rather than employment creation (ILO 1978 : 61).

Demographers are interested in work, or more narrowly in 'labour force participation' because it interacts with so many demographic variables. For both males and females there are strong casual links between both occupation and work status and marriage, fertility, migration and mortality (Youssef 1974; Kupinsky 1977; Hunt 1965; Jones and Lucas 1979; Retherford 1975). In order to understand the nature of these casual relationships it is necessary to have reliable data on the working behaviour of individuals. There is also the practical factor that demographers work with censuses and almost all censuses, except the most limited, collect data on the economic characteristics of the population (ECA 1974a : 71-72).

From the point of view of women and development, one of the biggest barriers preventing women from having adequate recognition and opportunities to participate in development is the acceptance of the myth that women do not work. Thus in Indonesia a Government statement explains that Indonesia faces a heavy dependency burden because it is only the men who work (50%) and if the aged (10%) and children (15%) are subtracted this leaves only 25% of the population

to participate in development and to work to support the rest (Angkatan Bersenjata July 1973 : 1, quoted in Hull 1979). This perception of women 'not working' is reflected in the Indonesian Government's Family Welfare Education Programme which teaches rural women that they have five major duties as :

i) Producers of the nation's future generation.
ii) Wives and faithful companions to their husbands.
iii) Mothers and educators of their children.
iv) Managers of the household.
v) Citizens (quoted in Hull 1979).

Thus, through lack of understanding of the roles which women actually play, rural women are presented with an inappropriate middle class urban and pro-natalist mode) to copy. Usually women who serve the state by playing vital but humble roles in agriculture or factory production become heroines and models to be copied only in centrally planned economies such as Russia and China (Broyelle 1977). In Indonesia, the 1971 Census actually showed that formally defined participation rates varied from 20% in the province where women are least visible to 48% where they are most active.

According to Fong (1980) 'one reason that women are too easily excluded from national development planning is because they are victims of old fashioned statistics'. Thus, in Bangladesh the establishment of a single factory manufacturing nylon fishing nets threatened to displace some 10,000 unrecorded women who produced nets at home (D'Souza 1980 : 23). In Peru a vast dairy farm/factory rendered redundant countless women who engaged in dairying in their own houses (Deere 1979). In Jammu and Kashmir in India the UNDP supported a project to modernize the woollen handloom industry. Here increased male employment was counted as a gain but the loss of employment by women was not entered into the evaluation (Jain 1980). Because of inadequate data, planners fail to recognise that development projects are effectively robbing women to pay men as employment is taken away from unrecorded women in the informal sector and given to highly visible men working in the formal sector (D'Souza 1980).

The very idea of a strict separation between work and the rest of life developed during the industrialization of the West as the use of clocks and watches became widespread (Minge-Klevana 1980 : 280). Interest in the concept of the labour force developed in the United States during the depression when there was much concern to measure unemploy-

ment. Naturally the concepts used were designed for, and best suited to industrial economies where the majority of the population in the labour force is in stable wage employment and where almost all adults who are not in the labour force are students, housewives or pensioners (Standing 1978).

Applying these concepts to developing countries with large subsistence sectors was bound to prove difficult. In the case of men it was relatively simple to assume that any adult male who was neither a student nor an invalid was in the labour force even if only as an unpaid family worker. In the case of women the crucial issue revolved around being able to distinguish housewives from members of the labour force. Women who work for wages or men who worked on their own or their family land were clearly in the labour force, but what of wives who did some work on the family land or in the family business? 'The crucial point which arises and which appears to have been quietly ignored in the instructions issued in most censuses is whether the vast number of women who are periodically engaged in subsistence agriculture should be classified as economically active or not' (Blacker 1977:49). There is much disagreement as to how many hours per week or how many weeks per year women must contribute to the family enterprise before they can be counted as members of the labour force. This is evident in the definitions adopted in the Asian censuses described in Cho (1976). In one Fijian survey the dividing line revolved about the number of chickens : a wife who cared for nine chickens was classified as a housewife but a wife caring for ten or more chickens was recorded as an agricultural worker (WFS Fiji 1976).

A basic contradiction is that housework performed for one's own family is not counted as economic activity, unlike housework performed for an employer. It is increasingly being debated why there should be a need to distinguish between housewives and members of the labour force (United Nations 1977; Fong 1980). Estimates of the value of housewives' services in developed countries usually suggest that they are equivalent to approximately a quarter of the Gross National Product (Clark 1958; Gelber 1970). It is difficult to see why such a significant contribution should continue to remain unquantified (Bangladesh Economic Association 1977).

It has been strongly argued that in developing countries variations in the proportion of women recorded as being in the labour force simply reflect variations in the classification of farmers' wives (Boserup 1975). Thus in Turkey and Thailand where most farmers' wives are included, the proportions of the total labour force which are female are 36% and 39%

respectively. In Egypt and Bangladesh where only women in wage earning employment are counted the proportions are 7% and 4% (ILO 1979). Since there is little variation in male participation rates it is the classification of women which determines both the proportion of the population which is recorded as economically active and the total size of the national labour force.

In the rural areas of many developing countries there is effectively no woman who is just a housewife. Women spend little time on domestic work such as cooking, cleaning and child care : most of their time is spent in providing the types of goods and services which are bought for money in industrialized countries, producing and processing food and providing fuel and water (Boserup 1975). 'In premodern societies, agricultural labour is domestic and there is no conflict between female labour and domesticity; the female farmer, the wife and the mother are one. When a working woman must move into contact with non-kin, when she can no longer walk out of the back door and hoe corn, her work becomes problematic for her, her family, and the society' (Wilensky 1968 : 236).

Maximum participation rates for women have been recorded in Rwanda where 96% of all adult women were included in 1970 (Lucas 1976 : 147), and in the 1891 United Kingdom Census where all adult daughters living at home and not otherwise classified were counted as domestic workers* (UK Census 1904 : 76). It should be noted that Rwandan women manage to combine sole responsibility for growing the national staple food crop, beans, with a total fertility rate of 7.8 (U.S. Bureau of the Census 1979). Whilst farm wives are usually classified as unpaid family workers, the 1964 Botswana Census took the stand that women were partners in the family enterprise and thus classified them as self-employed.

Minimal participation rates are all found in Muslim countries where it is shameful for men to admit that their wives are anything other than housewives. Thus, in the Algerian Census of 1966 only 23,315 women were returned as agricultural workers, but official estimates were that some 1,200,000 women regularly involved in farm work were not reported as economically active (Durand 1975 : 239). In fact, during the 1966 Census the Algerian enumerators were specifically instructed not to record other activities for women who were also housewives. The result was that the percentage of all females in the economically active population apparently fell from 25% in 1954 to 2% in 1966 (Blacker 1977). Nassef (1970)

*Unless otherwise specified, participation rates in this chapter refer to the percentage of adult women who are officially defined as being in the labour force.

has explained that women's work in Egypt is not adequately reported because of the traditional line of thinking about women's role and ... discounting of the importance of their part in the work of the farm'. Thus the statistics often represent the ideal rather than the actuality, especially where the ideal teaches that for a woman having to work is an aberration in the same sense that unemployment is an aberration for a working male' (Banerjee 1979 : 141-142). In Upper Volta the official labour force participation rate for females over the age of 15 is 3%. However the report of the 1975 Census, from which this figure is drawn, simply states that no way was found to measuring female activity rates despite women's 'intense' contribution to agriculture (Upper Volta 1978 : 93).

There is a natural tendency to believe that statistics which appear in print in reputable publications must have a firm basis in fact. However the figures which represented Kenyan labour force participation in the Kenyan Government's Statistical Abstract and the ILO's Labour Force Estimates and Projections (1974, Part 6 : 134) are 'based on data concerning the Bantu population in the censuses of the Republic of South Africa and Nambibia held between 1946 and 1960' (quoted by Anker and Knowles 1978: 137).

Where statistics are based upon survey data collected locally there are still considerable problems in measuring labour force participation. In one Kenyan survey, heads of household were asked about the jobs and unemployment of each household member during the last twelve months while married females were asked about the work they had been doing since marriage. In urban areas (after excluding women who reported that they worked as 'housewives only') the figures obtained from the male household heads were very similar to those obtained from wives. However in rural areas the women were more than twice as likely to report that they were engaged in farming as the male household heads (Anker and Knowles 1978).

Even in cultures where women are expected to work outside the home, as in coastal West Africa, hurried reporting by male household heads is likely to underestimate women's economic participation. Thus probing during the Post-Enumeration Survey which followed the 1960 Ghana Census showed that 45% of the women who were recorded as home-makers in the Census were, in fact, gainfully employed (Blacker 1977).

Anthropoligists have approached the measurement of women's participation from a different viewpoint : that of the overall sexual division of

labour (Brown 1969 and 1970). This approach examines all the tasks which have to be carried out in a society and looks to see who actually carries out each task. This method has the advantage of recognising that child rearing and housework are essential services without which society would not survive. Many feminists have argued that all sexual inequalities are based on the sexual division of labour and that its abolition would result in overall equality between the sexes (Dixon 1976). This means not only that women participate equally in the public spheres of life but also that men participate eually in the private spheres. If men are equally involved in cooking, cleaning and childcare it is impossible for them to maintain an authoritarian stand as lords and masters (Rosaldo and Lamphere 1974 : 14, 39).

Heath (1958) examined the sexual division of labour in subsistence production in 398 traditional societies for which there were anthropological data. In no society were women responsible for more than 80% of subsistence production but in 27% of the societies they were responsible for more than half of all subsistence production. Most commonly women were responsible for a third of production. In 6% of the societies women were recorded as being responsible for none of the subsistence production. This was because tasks such as food processing and the making of cloth and clothing were excluded from the definition of subsistence production. Almost all traditional societies consider that the division of labour is enforced by nature, yet Murdock (1949) found that in a sample of 432 societies every task (except metal working) that was carried out by men in one society was also carried out by women elsewhere (and vice versa).

More recent estimates, based upon actual time budget studies, rather than upon masculine comments, have increased the proportion of total food production allocated to women. Although there are wide variations between cultures, in traditional societies around the world women bring in, on average, some 30-40% of food consumed (Coppinger and Rosenblatt 1969; Sanday 1973). For much of Tropical Africa women's contribution equals as much as 60% of total production (ECA 1974b).

CHANGES IN WOMEN'S PARTICIPATION IN THE LABOUR FORCE DURING ECONOMIC DEVELOPMENT

Given all the problems inherent in measuring women's labour force participation which have been discussed above, it is clearly very difficult to make valid comparisons between countries or over time. Some

apparent trends are simply artefacts of the way in which women are classified. Thus in countries where almost all rural women are recorded as housewives, modernization and urbanization are certain to result in an increase in the levels of participation as some women move to the towns and secure jobs in the formal sector there.

Early writers, who were very conscious of what was happening in the towns, were certain that the labour force participation of women increases during socio-economic development (Patai 1969). They also thought that this paralleled nineteenth century European experience. However this historical view was a very narrow one which focused on the new experiences of middle class women who wrote about their own lives, and ignored poor women who had always had to find employment as factory hands, domestic servants and agricultural labourers. Similarly discussions of changes in Asia concentrated on the theory of purdah and the work of middle class liberal reformers rather than on poor women working in the fields (Omvedt 1979).

Despairing of adequate data on female participation in agriculture some more sophisticated analysts have limited their discussion to non-agricultural employment (Wilensky 1968; Youssef 1974). Thus Collver and Langlois's (1962) study shows that the relationship between the proportion of women in the labour force and the level of industrialization is much clearer when the agricultural labour force is excluded from the calculations and becomes greater still if domestic service is also excluded. Frejka (1971) restricted the analysis to women aged 20-24, but this confuses differences in the life cycle with differences in levels of development.

Boserup concentrated upon 'employment in the modern sector as a percentage of all persons of 15 years or more' (Boserup 1973 : 383). While the percentage of all adult in the modern sector ranges from 5% in the least developed countries to 36% in the most industrialized, the proportion of adult females in the modern sector ranges only from 1% to 22% with no developing country having more than 9%. The best measure of the cultural acceptability of women being economically active outside the home is provided by the proportions of women in trade and domestic service because these occupations are available at all levels of development. Countries with above average proportions of women in these occupations are in South East Asia or have Negro or South American Indian populations. Countries with below average numbers of women self-employed or in the service sector are Muslim and Hindu cultures (Boserup 1973).

Studies which examine trends in women's labour force participation at different levels of development by restricting the scope to certain types of employment can only provide partial answers to questions about changes in women's roles. Most studies of the total picture support the U-shaped hypothesis that women's participation falls in the early stages of economic development to rise again at a later stage (Durand 1975; Sinha 1965). The explanation appears to be that the shrinkage of agricultural and informal employment opportunities during the early stages of development places women at a disadvantage, especially as preference is given to men in employment in the formal sector. It may also be the case that rising male incomes result in a lesser pressure upon women to act as supplementary income earners, especially in cultures where the whole family loses status if the wife works outside the home. Women's participation rates supposedly rise again with the spread of female education and the rising demand for women's services in the tertiary sector. Evidence of the downward trend in women's participation is generally more convincing than that for the subsequent upward turn (Durand 1975 : 138).

Whilst the U-shaped curve describes a general pattern, there are many other factors which influence women's labour force participation. Some of these factors which have been discussed in a developing country context are outlined in Table 7.1. The most intensive survey of cultural differences is provided by Youssef's (1974) study of the reasons why women's labour force participation should be so much higher in Latin America than in the Middle East. Even in the developed countries there are clearly cultural differences in the acceptability of married women going out to work. Thus within Europe the percentage of the total population which is economically active ranges from 60-52% amongst males but from 44-19% amongst females (ILO 1979 : Table 1).

One factor which has received surprisingly little attention is the influence of childrearing responsibilities upon women's participation. Although there have been many studies of the impact of workforce participation upon fertility (see Chapter 4) there have been relatively few attempts to concentrate upon the inverse casual link and examine the impact of fertility and other characteristics upon workforce participation (but see Ware 1977; Fong 1974). Much clearly depends upon the cultural setting. In areas such as Kenya, where women's participation is readily accepted, it is possible to show that neither in rural or urban areas does fertility, nor the presence of children aged under five years, nor the availability of another female household member who could undertake childcare, make a significant difference in the probability of female participation (Anker and Knowles 1978). In areas where poverty or need are the major factors

influencing participation it is often possible to demonstrate a positive association between fertility and the likelihood of women's participation (for Malaysia see Fong 1974; for Sierra Leone, Snyder 1974; for the Philippines, Rosenzweig 1976). At a broader level Friedl (1975) has argued that it is the subsistence activities of women which determine the spacing and rearing of children rather than vice versa. Thus it is argued that denying women an economic role outside the home is a direct contribution to high fertility.

Although housewives undoubtedly make an economic contribution the problem is that both the quality and the quantity of the output could be greatly increased with more specialization. Grain processing is an excellent example of this. Thus it is argued that 'to create more paid jobs for women is the surest way simultaneously to raise their status, to reduce their drudgery, and to raise the national output' (Lewis 1955 : 117). 'It is open to men to debate whether economic progress is good for men or not, but for women to debate the desirability of economic growth is to debate whether women should have the chance to cease to be beasts of burden, and to join the human race' (Lewis 1955 : 422).

FEMALE PARTICIPATION AND MALE UNEMPLOYMENT

One argument is almost always raised in opposition to any scheme for promoting women's participation in the labour force and improving their access to cash incomes of their own. The claim is that while there are men who are unemployed or underemployed their needs must come first. The assumption is that men are the breadwinners and therefore that providing employment for men will serve to provide for the whole population through their family units. This ignores the fact that modernization is usually associated with breakdowns in the extended family and with an increasing proportion of female-headed households where a widow or a deserted wife has to support her children.

More basically the argument over employment for women or for men reflects a misunderstanding of the origins of unemployment and the nature of development. Unemployment results from an unequal distribution of resources. It is not a problem in rural areas with labour intensive farming methods where everyone has access to reasonable plot of land. It becomes a problem in urban areas because the disparity between rural and urban incomes encourages constant rural-urban migration and makes it worthwhile for the educated unemployed to wait for suitable employment.

Table 7.1 Factors Affecting the True Level of Women's Labour Force Participation

	FACTOR	WHERE DISCUSSED
1.	The level of economic development	Wilensky 1968; Durant 1975; Huntington 1975.
2.	The style of development	Raviwongse 1978; SIDA 1974; Lini 1976.
3.	The infrastructure available	Hackenberg 1979b ; Guha 1974
4.	Government policy concerning the employment of women	Salaff and Wong 1977; Croll 1978 ; Davin 1976 .
5.	Laws relating to the employment of women	Kinzer 1973.
6.	The type of work available	Youseef 1974 ; Castillo 1976; Yoon 1977.
7.	The structure of the family	Collver and Langlois, 1962 ; Salaff 1976a.
8.	Cultural traditions concerning men's control over women	Youssef 1974; Tuckwell 1976.
9.	Cultural traditions concerning women's economic roles and responsibilities	Fapohunda 1978; Michaelson and Goldschmidt 1971; Dixon 1976; Ware 1977 Beechey 1978; Shah 1975 .
10.	Fertility levels and cultural traditions influencing child-rearing behaviour	Popkin and Sohon 1976 ; Kupinsky 1977; Anker and Knowles ; 1978 Weller 1977 ; Fong 1976 .
11.	Child care-availability	Adams and Winston 1980.
12.	Cultural expectations as to the need for and nature of housework	Coulson et al. 1975; Gardiner, 1975 ; Secombe 1973; Jayme-Ho 1976 Szalai 1972; Vanek 1974 .
13.	Women's property rights	Lucas 1975 ; ECA 1975.

Table 7.1 (Contd.)

FACTOR	WHERE DISCUSSED
14. Women's educational levels	Standing 1976.
15. Women's ages at marriage and opportunities to gain independent experience prior to marriage.	Dixon 1979; Salaff 1976b ; Fong 1974.
16. Migration behaviour	Jones and Lucas 1979 ; Hackenberg 1979a.
17. Women's access to technology	Schmink and Chaney 1976; Ward 1970 ; Hirashima 1977.

Boserup (1970 : Chapter II) has argued that encouraging the employment of women in urban areas would have the following advantages:

i) It would slow down the rate of rural-urban migration. This would mean that :

   (a) more of the enterprising men would stay in the rural areas and promote development there ;

   (b) less new infrastructure would be needed in the towns by employing women already resident in the towns and the labour force could be almost doubled without the need for any more homes, schools, and roads.

ii) It would result in the nuclear family becoming a two-income unit. This would mean that :

   (a) families would be better able to pay taxes for the provision of urban services ;

   (b) families would have some possibility of saving to build their own houses to replace slum dwellings etc.

iii) It would encourage fertility control.

iv) It would also reduce the dependency burden because urban wives would no longer be dependent and because women migrating to the towns would no longer lose their productive role upon migration.

Governmental reactions to such arguments are likely to be very mixed. Most Third World governments would like to be able to effect major reductions in the rate of rural-urban migration but their power to do so, even by such indirect means as promoting the employment of women in the cities, is often very limited. It is easier for the governments of centrally planned economies. China provides an excellent example of a country where rural-urban migration is strictly regulated and women's participation in the economy is almost as great as that of men in both the rural and the urban areas (Sidel 1972). Some highly traditional countries have very high proportions of women in agriculture and very low proportions of women in non-agricultural occupations. Zaire in 1955-57 had both the world's highest proportion of women amongst agricultural workers and the world's lowest proportion of women in other occupations (Durant 1975 : 34-35). Many Latin

American countries have high proportions of women in non-agricultural occupations and very few women in agriculture. However, developing countries with high participation by women in both agricultural and non-agricultural spheres are almost all centrally planned economies. Yet even planned economies cannot always overcome cultural barriers. While China has had considerable success in incorporating women into the general workforce, Cuba has been much less successful (Croll 1979 : Bengelsdorf and Hageman 1978).

TIME BUDGETS

Time budget studies provide a clear picture of what women actually do during the waking hours of the day (Table 7.2). Although some studies relay on restrospective reports on the previous day, the best data comes from actual observation by an investigator who sits with a watch and a time-sheet and marks down each activity including cases where an individual is performing more than one task at a time such as weaving and minding the baby. Obviously such research is extremely costly in terms of personnel and quality control and can only be carried out on relatively small samples.

The advantages of time budget studies for the examination of women's roles are that they:

i) Dispel the myth that the only economically productive 'workers' are the members of the paid labour force.

ii) Show the dual burdens weighing on women who are responsible for housework and subsistence production, or housework and wage labour etc.

iii) Show the bottlenecks in production and the total number of person hours spent in carrying water, gathering firewood, and grinding grain which could be saved through the application of simple technological changes and very small scale development projects.

iv) Show the extent to which there is a conflict between childrearing and alternative uses of time.

v) Explore the issue of the economic contribution of children either through their own productive labour or by releasing adults for more productive work.

Table 7.2 Time Budget Data from Village Studies, Adult Females and Males.

Activity	Hours per Day							
	Bangladesh		Indonesia		Melanesia		Malawi	
	F	M	F	M	F	M	F	M
Animal care	.14	.53	1.3	0.1				
Crop Production	.28	2.26	1.9	2.7	4.3	2.4	2.6	2.3
Handicrafts	.28	.03	2.3	0.4			0.1	0.3
Trading	.07	.98	0.8	1.6	0.2	0.4		
Wage Work	.49	2.26	0.1	1.4	0.0	0.1	0.1	1.6
Other Income	.20	.83	0.0	1.0				
Hut construction	.15	.15			0.2	0.3	0.2	1.5
Exchange labour			0.1	0.8	0.2	1.1	0.1	0.1
Income Earning (sub-total)	(1.61)	(7.04)	(6.5)	(8.0)	(4.9)	(4.4)	(3.1)	(5.8)
Rice Processing	1.29	.01						
Firewood	.36	.05	0.1	0.2				
Housework	2.01	1.14	1.0	0.1	0.9	0.5	3.1	0.2
Food Preparation	2.23	.03	2.7	0.1				
Childcare	.80	.05	1.0	0.3				
Home Production (sub-total)	(6.68)	(1.29)	(4.8)	(0.7)	(0.9)	(0.5)	(3.1)	(0.2)
Total Work	8.29	8.33	11.2	8.7	5.8	4.9	6.2	6.0

Sources : Cain 1979 : 14; White 1976 : 275 : Kirkpatric 1978: 290 ; Clark 1975 : 8

vi) Show how much or how little time could be made available for income earning work, literacy classes, participation in communal development projects, etc.

In one adult education project in Upper Volta it was found that wells had to be dug, grain grinding mills had to be provided, and donkey carts had to be introduced for firewood carting before women had time to attend (Lavrencic 1979) .

The disadvantages of time budget studies are that they are only a basis for informed action and not a substitute for actual projects, and that they are only rarely absorbed by those who have to make the decisions. There are also many technical problems associated with securing a representative sample which will cover all classes of the community and all seasonal and day-to-day variations.

One remarkable feature of the available time budget studies around the world is just how little time adult women spend in childcare (Khan and Bilques 1976; Kirkpatrick 1978). In reports which include a specific category for childcare this activity rarely occupies much more than 10% of women's time. Where childcare is included in a more general category of domestic work it is usually clear that there is little scope for the expenditure of long periods of time on childcare (Table 7.2). There are three reasons for this pattern :

i) Daughters of the house often spend more time on child care than their mothers (White 1976; Weisner and Gallimore 1977).

ii) An average figure disguises the greater expenditure of time by mothers who only have young children.

iii) Childcare is usually not a very demanding activity and thus is generally combined with some productive activity which is recorded as the primary activity.

Quite clearly any mother with a working day similar to those represented in Table 7.2 who wished to cut back the demands on her time would look to reducing the time spent in food processing rather than seeking to limit the demands of childcare. High fertility may be an economic burden but it certainly does not impose very great burdens on women's time.

Although detailed time budget data provide an excellent method of demonstrating women's economic contribution, even when in purdah,

the way in which women's activities are classified may still serve to downgrade their contribution. Thus one Bangladesh study classified men's work on their own land as 'productive' but excluded women's farm work (Farouk and Ali 1975; Abdullah and Zeidenstein 1978). A more common error is to ignore the economic importance of 'family expenditure saving works' which produce 'Z goods', such as the processing of food and fuel, the repair of equipment, and the making of clothes and bedding, which are services which would have to be paid for if not performed by members of the household (Hymer and Resnick 1969). In some Muslim societies the belief that women do not 'work' results in the decision simply to omit them from time budget studies altogether (Abdullah and Zeidenstein 1978; Simmons 1976).

In contrast to the Asian situation where such studies are still rare, African women have been well served by time budget studies which have acknowledged that rural women work as hard as, or harder than men (Cleave 1976; Farrington 1975; Schwartz 1971). However this has not always resulted in planning decisions which take women's existing burdens into account. Thus in Tanzania those planning the early settlement schemes thought that an eight hour day was enough for men but expected women to work eight hours in the fields in addition to fetching water, childcare and spending two hours daily in pounding corn, securing firewood, and their other domestic chores (Brain 1976). Equally in Kenya planners protested that women were behind the demand for rural water which the administrators saw 'as a consequence rather than a cause of development' (Carruthers 1970). The reduction of the high proportion of time which women spend in tasks such as fetching water which are essential to the maintenance of the household, unfortunately has low priority even where women's economic contribution is acknowledged, and an even lower priority where women are believed to be just housewives.

The links between women's time budgets and their demographic behaviour are less obvious than the links with participation in development but they are still important. Firstly, there is the debate as to whether economic participation will discourage women from having many children. The other side to this question is whether women have children because the children are of value in reducing their workloads since the young can be used to fetch and carry and take over domestic responsibilities (Lucas and Meyer 1980; Ware 1978). Secondly, there are the demographic links between the heavy work burdens borne by rural women and their desire to migrate to the facilities of the towns or their experience of morbidity and mortality because of heavy labour especially when pregnant (Schwartz 1971).

WOMEN AND DEVELOPMENT PLANNING

In the conventional view, women are of interest to development planners because they persist in bearing many children and maintaining rapid population growth rates which are believed to be a major restraint upon the speed of economic development. Just as the demographic aspects of women's lives cannot be understood apart from the total context neither can women's contribution to development be evaluated apart from their demographic roles. This is admirably expressed in the principles established by the Indian Committee on the Status of Women (1974):

i) that equality of women is necessary, not merely on the grounds of social justice, but as a basic condition of social, economic and political development of the nation;

ii) that in order to release women from their dependent and unequal status, improvement of their employment opportunities and earning power has to be given the highest priority;

iii) that society owes a special responsibility to women because of their childbearing function. Safe bearing and rearing of children is an obligation that has to be shared by the mother, the father and society;

iv) that the contribution made by an active housewife to the running and management of the family should be admitted as economically and socially productive and contributing to national savings and development;

v) that marriage and motherhood should not become a disability in women's fulfilling their full and proper roles in the task of national development. Therefore, it is important that society, including women themselves, must accept their responsibility in this field;

vi) that disabilities and inequalities imposed on women have to be seen in the total context of a society, where large sections of the population - male and female, adults and children - suffer under the oppression of an exploitative system. It is not possible to remove these inequalities for women only. Any policy or movement for the emancipation and development of women has to form a part of a total movement for removal of

inequalities and oppressive social institutions, if the benefits and privileges won by such action are to be shared by the entire women population and not be monopolised by a small minority;

vii) that if our society is to move in the direction of the goals (of equality) .. then special temporary measures will be necessary, to transform de jure into de factor equality.

Evidently this book cannot lay down detailed prescriptions for the fuller integration of women into planned development. As the preceding chapters should have made clear, this is an area where cultural differences are of great importance. A solution designed for Bangladesh would have to address problems not found in the Philippines and vice versa. Even within each country there are considerable variations especially between urban and rural areas (Gonzalez and Hollnsteiner 1976 ; Women for Women 1975). In addition, there are very few successful models to be followed (Croll 1979). Indeed, in many cases where the position of women has numerous admirable features, these are often disappearing from traditional societies under the pressures of economic development projects which follow Western models (see Chapter 1). Reading the suggested list of basic texts (Appendix A) will serve as introduction to many of the proposed measures for improving the position of women. Approaching the problem for another direction, the Checklist for Participation of Women in Development Projects (Appendix B) gives a step-by-step outline of how to ensure that women are integrated into general development projects.

The starting point of planning for women is to be able to state the needs, problems, activities and interests of women on the basis of a good data base which includes both quantitative and qualitative information. The Asian and Pacific Centre for Research on Women and Development has produced a volume of 'Notes on Data Collection with Special Reference to Women' which is an excellent 'Do-It'Yourself' manual for individuals and groups who want to take action into their own hands (APCWD 1980). This manual explains the methodologies to be used but also stresses the importance of the participation of the women being studied and the truth that research is chiefly of value where it is followed up by informed intervention.

Recently there has been increasing awareness that rural women have been much neglected and that their existing contributions and their views should be taken into account in the designing of development projects (Independent Commission on Development Issues 1980 ; Nelson 1979 ; Palmer 1979; UNDP 1980 ; Zeidenstein 1979). Unfortunately, the findings of the growing number of anthropological studies of the factors

which define the position of women are not generally produced in a form which is accessible to development planners (Ardener 1979; Hochschild 1973 ; Rogers 1978 ; Tifflings 1978). Similarly the findings of demographic studies which take a broad view of women's roles have only a limited circulation among planners in general (Chaney 1973 ; Reining 1977) . There is still a great need of more synopses combining the findings of anthropologists, demographers and sociologists and bringing forward the policy issues which planners should bear in mind if women are to participate fully in development.

CONCLUSION

It is fitting that a survey of women, demography and development should close with a chapter on women's work. Women have always worked and reared children - what has changed is the relative valuation placed upon these two activities. In traditional societies the crucial issues were the production of enough food and other goods to support the population, and the reproduction of sufficient number of persons to ensure the survival of the population in face of high levels of mortality. Women were most valued as the mothers of the next generation . As mortality has come under a degree of control some 77% of the population of the developing world now lives in countries with official policies to reduce population growth rates through a matching control of fertility (Nortman and Hofstatter 1980 : 17) : Women are thus now expected to concentrate upon quality rather than quantity in childrearing and this in turn implies that women's role and contributions will change (Oppong and Haavio-Manilla 1979).

Women's lives are actually more radically transformed by demographic and developmental changes than men's lives are (Stycos 1977). Modernization essentially involves the expansion of the 'masculine' public domain at the expense of the 'feminine' private domain of the family. If women stay in their tradional sphere then their world will inevitably shrink around them as education is taken over by the school, home production is replaced by the products of the commercial farm, cooperative or factory, and even entertainment and politics cease to be family affairs. Although many traditionalists would like to think that women, enclosed within the private sphere of the family, could be isolated from change and modern influence, experience shows that it is impossible for a nation to march forward on one, masculine, leg. Either women participate in development or they act as a brake upon the rate of progress.

The World Conference of the United Nations Decade for Women held in Copenhagen in July 1980 provided an ideal opportunity for evaluating the current position of women and the potential for governmental action in this area (United Nations 1980). The background papers included reports from the United Nations agencies (UNESCO, WHO, ILO) on progress made in education, health and employment. National governments submitted reports on their perceptions of progress made or on projects which they felt to be models of their kind. And the whole conference discussed the World Programme of Action which devotes some two hundred paragraphs to outlining what should be done for women. Typically, the most heated debate was reserved for issues such as racism which are of equal interest to men and women. The overall impression was that the lack of debate over specific measures related to women reflected a lack of governmental interest in the area. In this case, more opposition to individual items would have been a healthy sign of genuine concern. The ideological differences which did appear simply reflected general differences such as those between capitalist and planned economies. Women as such, still failed to gain the status of a political issue. No government in the world stands or falls on its treatment of women. The problem is rather that everyone is prepared to pay lip-service to the idea of improving the status of women, if not to devote scarce resources to this end. Another problem with the governmental conference (there was also a parallel meeting of representatives of non-governmental organizations) was that so many proposals were inevitably phrased in terms of governments helping women rather than in terms of women helping themselves.

All United Nations' conferences are inevitably remote from the lives of the common people, but in this case the distance was further increased by the fact that governments were essentially masculine institutions even where they are represented by female spokespersons. The vital message from the Conference seemed to be that the advancement of women is only to a limited degree a governmental matter. The essential changes are those which must be made at the level of the individual and the family. Hence the crucial link between women, development and demography. Demography is basically concerned with changes that affect families and women's concern with development starts at the level of the family and expands from there. Fertility falls, not because governments take action, but because families decide to have fewer children. Similarly, progress for women can be facilitated by governments, but will only spread when there is change at the level of the family (contrast the experiences of China and India). The idea of development from the grass roots up needs to be matched by a commitment to economic and social structures which do not handicap women from the start at the level of the family.

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Background Paper

WORK PARTICIPATION OF RURAL WOMEN IN THE THIRD WORLD : SOME DATA AND CONCEPTUAL BIASES

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Background Note

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WORK PARTICIPATION OF RURAL WOMEN IN THE THIRD WORLD

SOME DATA AND CONCEPTUAL BIASES

I. Introduction

Problems of unemployment, poverty and destitution have long been the stated concerns of development policy in most Third World countries. Yet there continues to be little appreciation that in many instances, these problems are also gender-specific; and that any serious attempt to alleviate these conditions and/or prevent their further aggravation, would require a particular focus on the women of poor households. The insights provided in this regard by micro-studies, have received little serious attention. At the same time, the accuracy of national-level statistics, which usually serve as the principal data input in the framing of development policies, is severely impaired by biases which lead to an undercounting of women, both as workers and as those available for work. There are also lacunae in data coverage. As a result, in their very conceptualisation many of the schemes instituted to help the poor are misdirected.

This paper seeks to spell out the nature and sources of these data biases. It also attempts to provide pointers on how they can be corrected and some of the data gaps filled. The discussion centres on data relating to the rural areas of the non-socialist Third World. The following Section (II) of the paper briefly spells out why there needs to be a focus on women separate from men, in planning rural employment and income-generating schemes; and touches on how inadequate and inaccurate gender-related information can lead to schemes being misdirected. In Section III the biases, especially in census information, are traced. Section IV deals with some of the inadequacies in data coverage. Section V points to some conceptual biases in data use; and Section VI addresses itself to the question: what can be done?

II. Need for a Focus on Women In Development Schemes and Data Collection

There are now a fairly large number of micro-studies that point to the dangers of State-sponsored Schemes which seek to raise the welfare of poor households, based on little knowledge or appreciation either of the intra-household division of labour and income between women and men, or of women's independent need for employment or other income-earning opportunities. These pointers relate in particular to the following aspects:

First, the evidence indicates that the interests of women and men belonging to the same household do not always conincide and in some situations are even in conflict. Hence when schemes are aimed at the men of a household, the benefits cannot automatically be assumed to reach the women; the programmes can even leave the women worse off. For example, in the African context, where typically women are responsible for cultivating the subsistence food crops, the promotion of new rural earning-schemes (cash-cropping, poultry-keeping, etc.) for the men, by national and international agencies, have in a number of instances adversely affected the household women: The women, while continuing to be solely responsible for producing the family's subsistence food needs, also have to contribute obligatory labour to their husbands' new activities (Boserup, 1970, pp.22-23; Bukh, 1979; Hanger and Moris, 1973, pp.234, 238; Mbilinyi, 1972, p.373; UNECA, 1972, pp.363-4; Wilde, 1967, p.51). However, any extra cash income so generated accrues typically to the men alone (Mbilinyi, p.373; Palmer, 1977, p.101; Wilde, p.51; Bukh, p.29). And such money tends to be spent by the men largely for their personal needs such as drink, clothes, radios, inputs for their fields etc., with relatively little flowing to the women (Bukh, pp.29, 51; Hanger and Moris, pp.227, 234; Consortium for International Development, 1978, p.A-53). In some instances, women's income and consumption are even noted to have decreased in absolute terms, as they now have less time and energy to devote to their independent productive activities (Hanger and Moris, pp.241, 242; Palmer, p.101; Bukh). In the Asian context also, evidence from a number of countries suggests that the degree to which women from poor rural households gain from a rise in household income is affected by their extent of direct control over such earnings: The items on which the household cash is spent for instance, is once again noted to vary by gender, with the men usually spending a part on liquor and cigarettes for themselves, and the women usually spending on family necessities alone (Arens and Van Beurden, 1977, p.45; also see Agarwal, 1981, pp.13-14).

Secondly, in many cultures, especially in a number of African countries, the cultivators are primarily women. Yet this is seldom given recognition when programmes to develop agriculture are planned. Usually, knowledge of new inputs and training in new practices is provided to the men alone: "In the African way ... we speak to the man who is the head of the house and assume he will pass on the information to other members (Staudt, 1976, p.91; also see Boserup, p.55). Land titles too are granted typically to the men, which limits women's access to credit (Staudt, pp.86-87). Instances have even been noted where the design of agricultural equipment has been done with men in mind although women are the users (Ahmed, 1978, p.8). As a result, the women continue to cultivate with old, low productivity techniques.

Thirdly, in a large number of households, women are the bread-winners. Although data on this are fragmentary, a fair indication of magnitudes is provided by recent attempts to collate existing information: Buvinic and Youssef (1978, pp. i, 73-4) for example, estimate that 15%-25% of the households in many Third World countries are likely to be headed by women: 20% on average in the Caribbean and Central America, 22% in sub-Saharan Africa, 16% in North Africa and the Middle East, 15% in South America and 18.7% in India. The incidence of poverty is noted to be much higher among such families than those headed by men. There are indications too that the number of such households is increasing (Birdsall and McGreeley, 1978, p.23). Further, in recent years, when Food-For-Work (FFW) programmes have been initiated in parts of South Asia, many of the women who have sought work are those with dependents and with little or no financial support from male relatives. One survey covering 303 female worker families in a Bangladesh FFW programme, found that 33% were headed by widows, and 14% by divorced and deserted women. Almost half the women were the sole income-earners of their families, and all but seven had dependents (Chen and Ghuznavi, 1978, Appendix Tables 4 and 10).

In this context, a lack of information on the incidence and nature of unemployment among women, especially as it relates to poverty among women, clearly has significant implications. Employment projects for the poor for instance, would be misdirected where those needing work are women heads of households, but the projects in their work content, location and period of work availability take no account of this. Misinformation about the availability of women for work may also take the form of not recruiting them when a project is started[1].

Undeniably, the filling in of data gaps or the correction of data biases would be only a small step in reducing lacunae in scheme-formulation. Inadequate information or misinformation is not the sole cause of misconceived income-generating schemes, or of the failure to pay attention to questions of women's poverty and unemployment. The gap between available data and their use in policy can be just as critical as the gaps and biases in the data themselves. And the gap between policy and implementation can be even more critical. Nevertheless, it is important to recognise that insofar as the existing data base serves as an input into policies in many Third World countries, data inadequacies that permit unsubstantiated conjecturing and the perpetuation of misconceptions regarding women's work roles and their income and employment needs, can have serious repercussions on the effectiveness of economic resources allocated to development schemes.

Data shortcomings as they relate to issues concerning rural women and work stem on the one hand from the method of data collection and the concepts and definitions used, and on the other hand from the content of the data collected. An additional problem relates to conceptual biases in the use of the data for analysis, as for instance in women's work being discounted on a priori assumptions of their lower productivity relative to men's. These data and conceptual problems are discussed in the sections that follow. For purposes of illustration, the discussion is based primarily on Indian data sources, although wherever possible, examples are drawn from other courties as well. Most of the issues highlighted have general applicability and would be relevant when considering the use of such statistics in large parts of the Third World.

III Biases in Data Collection

One of the main sources of macro-data on work participation in most countries is the census. It is usually the primary and often the only means available to many countries, for assessing and monitering over time the impact of development policies on the pattern and level of male-female labour force participation. It is also one of the most widely used sources for cross-country comparisons of labour force participation rates. It therefore becomes especially important to take account of the biases which affect the estimates of women's work participation that are based on such data.

In India, the decennial censuses constitute one of the two main official sources of data on rural women's work participation; the other is the National Sample Survey (especially, the 25th and 27th rounds). Both sources, however, are inadequate on a number of counts. While a comprehensive review of the statistics will not be attempted here, some of the specific biases which tend to creep in, in relation to women, will be discussed in detail.

To begin with, it is useful to address ourselves to some basic and seemingly straightforward questions which need answering, and consider the problem of answering them on the basis of existing data sources:

(a) What proportion of rural women may be counted as 'workers'?

(b) What proportion of the women not so counted are 'available' for work?

(c) For what period are rural women, both those included among the 'workers' and those not so included but 'willing' to work, available for work? This is important to know in view of the seasonal nature of the work characterising agriculture.

(d) What are the characteristics of the employed and 'involuntarily' unemployed women in terms of their status as household heads, their economic position (including tenure status), their age, their education/skill levels and the number of their dependents?

A count of those not working but 'available' for work would be needed to measure the number of women 'involuntarily' unemployed. Information on the period for which work is sought would give an idea of female under-employment. This information together with that on some general characteristics of women workers and those 'available' would be necessary for formulating policies to provide income-earning opportunities. The discussion that follows is focussed on the nature and sources of biases in the existing data which seriously affect their accuracy and usefulness.

(i) Respondent and Enumerator Biases

These biases may be seen to stem from a variety of factors such as the gender of the respondent and the enumerator, cultural perceptions of women's roles, and the type of questions asked, including the words used to frame the questions.

Usually, in India and in most parts of the Third World, the person from whom information is sought and obtained is the male head of household or other male household member. Hence when questions relating to women's work status and her availability for work are asked, the answers tend to reflect a male perspective. In a cultural setting where women's involvement in otherthan domestic work is considered unprestigious, this leads to an under-estimation of women's work participation in non-domestic work, and of her 'availability' for such work, especially outside the home. Youssef (1974, p.12), for instance, notes from survey evidence relating to muslim countries that " ....farmers are generally reluctant to go on record as having their wives and daughters reported officially (i.e. in census count) in the labour market ...." Further, women's economically productive work could be seen by the men as a part of housework and so reported.

Typically, no attempt is made to seek out women respondents. This is partly but not entirely a reflection of the fact that census enumerators are usually men (village revenue officials, school teachers, officials of local bodies, etc.): This limits their access to women respondents, particularly in communities where female seclusion is practiced. In any case, the responses of women could be affected by the enumerator's gender.

It is of course true that in many instances, women and men may share the same cultural perceptions regarding women's roles. The tendency of women to declare themselves 'only housewives', even when they are economically active, reflects a common cultural pattern in large parts of the Third World. Buvinic and Youssef (p.9) observe how in a micro-survey of poor rural households in Honduras, many of the women who declared themselves as housewives, were in fact the bread-winners: In addition to housework, they performed an average of two economic

activities for which they received payment. Yet the question: "Do you work"? elicited the culturally accepted response: "No, I'm a housewife". Similarly, Deere (1977, p.8) notes that Peruvian peasant women declare their chief occupation as "their home" because such an answer is considered "right and proper", irrespective of the actual time they spend on agricultural activities. Here, in addition to the gender of the enumerator/ respondent, the way questions are framed can be significant. The words used in formulating questions also acquire importance. Part of the misreporting stems from semantic differences which underlie the interpretation of words such as 'work', 'housework', etc. (Abdullah and Zeidenstein, 1976). Unless questions are formulated with sufficient care, the answers will reflect the woman's own assessment of her work, with a strong likelihood of her under-estimating the economically productive content of that work, insofar as she herself considers it a part of 'domestic duties' and reports it as such.

As one recent survey of UN data on the position of women noted:

> "There is one major distorting device operating on all data collection concerning women, above and beyond interpretation differences or collection facilities. This is a set of cultural assumptions about the secondary importance of anything women do; it produces under-registration of women from birth to death, an under-enumeration of women in employment, independently of other forces that also create under-counting of populations in general" (Boulding, et. al., 1976 p.6).

Such cultural assumptions reinforce definitional biases on what constitutes 'working', as discussed below:

(ii) Definitional Biases

In different Third World countries, census definitions tend to vary between two extremes, depending on the inclusion or exclusion of unpaid female family labour. On the one hand there are countries such as Turkey and Thailand, where all women in agricultural households are included in the labour force, under the assumption that both women and men in such

households contribute in some way or other to activities relating to agricultural production. In these countries the agricultural labour force includes roughly the same number of women as men. In many North African and Latin American countries, on the other hand, all farmers' wives are counted as housewives, and are excluded from members of the labour force, unless they participate in the production of goods and services for sale (Boserup, 1973, p.83).

As a result of these definitional differences, the impact on female participation rates of structural changes in the economy, as for instance the impact of urbanisation, will appear to differ greatly between the two sets of countries. In the former set, women migrating to urban areas, unless they can readily find jobs, will now be counted among the non-workers, whereas earlier within rural agricultural households they were counted as workers. Hence in these countries, female participation rates will show a decline with urbanisation. In the latter set of countries, on the other hand, female activity rates will show an increase over the initial low rates, as more women get paid jobs and thus can no longer be ignored as workers. Census data may therefore show declining or increasing female participation rates, depending on which method of classifying unpaid family labour is used. Like-wise, inter-country comparisons of female activity rates can reflect spurious rather than real differences in women's involvement in work.

Some countries, however, fall in between these two extremes. These are countries which include among its workers those unpaid family women who by some specified criteria can be termed as having participated in 'productive' work. However, the definitions adopted can still be such as to have a disproportionately negative effect on the enumeration of rural women workers. For example, consider the Indian case where the criteria for defining a 'worker' have varied between censuses. (For the definitions of 'worker' adopted in the three census years, 1951, 1961, 1971, and discussed here, see Census of India 1971, Centenary monograph No.2, pp.637, 638, 657, 658, 684).

In 1951, the population was divided into 'self-supporting persons', 'earning dependents' and 'non-earning dependents'. Self-supporting persons were those earning at

least enough for their own maintenance. Earning dependents were those who secured an income which was regular but insufficient to fully support them. These two categories comprised the 'workers'. Household members who jointly cultivated land and thus jointly earned the household income, were classified as workers. However, for the women providing unpaid family labour on the farm to be so classified, clearly depended on their being perceived as joint cultivators. For the reasons mentioned earlier, there was a greater likelihood of their being reported as housewives and thus being counted as non-earning dependents.

In the next two decennial censuses, the definition of 'worker' shifted from the earnings criterion to one of 'gainful activity'. In 1961, the persons classified as 'workers' were either seasonally employed who had done ".... some regular work of more than one hour a day throughout the greater part of the working season ...." with or without remuneration, or were in 'regular' employment and had been employed during any of the fifteen days preceding the day of enumeration. An adult woman engaged in household duties but doing no other productive work to augment the family's resources was considered a non-worker. The 1961 census thus favoured the inclusion of women as workers, since the criterion for being seasonally employed was broad enough to capture many of the 'marginal' rural workers. However, that the term 'productive work' as applied to women, might be interpreted as production for sale, was a strong possibility, given a supplementary clarificatory clause relating specifically to women, which defined an adult woman 'worker' as one who " .... in addition to her household work, engages herself in work such as rice pounding for sale or wages, or in domestic service for wages for others, or minding cattle or selling firewood, or making and selling cowdung cakes or grass etc." (my emphasis, Census of India, 1971, Centenary Monograph, p.658).

In the 1971 census, the definition of 'worker' was particularly biased against the inclusion of women. Only those who reported themselves as participating in economically productive work as their main activity (in terms of time spent on the task) were counted as workers. This meant that women whose main activity was domestic work, or due to cultural biases mentioned, was reported as being domestic work, were counted as non-workers, even though they may well have contributed a significant amount of labour time in the

fields. Although a supplementary question as to whether a person had participated in any secondary work was asked, adding the count of female 'secondary workers' so obtained to the female 'workers' still does not provide an accurate estimate of rural female participation rates in 1971 (Sinha, 1972, 1975; Srinivasan and Des Raj, 1974).

The negative effect of definitions adopted, has been observed also in the censuses of other countries, Deera (p.9) for instance, notes that in the Peruvian census, cultural norms dictate that a man residing in the peasant household 'automatically' be considered the main agriculturist, while peasant women at best are regarded as 'helpers' or unpaid family workers. Unpaid family workers are counted as being economically active only if they satisfy a time criterion. By Deere's estimates, in the 1972 census, due to this criterion some 80% of the women who considered agricultural or livestock activities as their main occupation were not counted as economically active.

A general under-enumeration of women's involvement in gainful activity can also occur due to the overall fuzziness which surrounds the demarcation of 'domestic' from 'productive' work. One recent study on Sudan noted that only 10% of the Sudanese women were counted as economically active in 1967-68: The estimate had overlooked women's work in agriculture, animal husbandry and marketing, water and fuel carrying, grain grinding, etc. (UNECA, 1975, p.1). Often women's involvement in the cleaning and grading of agricultural produce contributes to the value added of articles sold in the market, yet it tends to be classified as 'domestic work'.

However, even if consensus could be reached regarding what constitutes 'domestic work', the fundamental bias would remain, namely the exclusion of this work from 'gainful work' and hence from national income and employment statistics. The inconsistency that this entails is seldom recognised. In the 1971 Indian census instructions, for instance, it is stated that: " .... a servant who work as a cook in his or her employer's home for wages will be considered economically active, but, a housewife, even if she may work much more than a paid servant, in having to cook for the family or looking after the household will not be treated as economically active ...." (Census of India, 1971, Centenary Monograph, p. 693). The question about the value of a housewife's work continues to be part of an unresolved debate.

(iii) Changes in Definitions and Problems of Comparability

Perhaps the most obvious advantage of census data is that changes over time can be studied for the entire population. Definitional changes in censuses reduce comparability especially of statistics on female labour, because women's work tends to be much more seasonal than men's work. This is particularly (though not exclusively) true of Asian agriculture where men usually undertake a greater diversity of agricultural tasks spread out over the year. Also, as shown, women's work is more susceptible to being omited with definitional changes which tend to affect 'marginal' workers more. Time-series, inter-census extrapolation therefore becomes difficult and often suspect.

For Indian data, we have already noted that the 1961 and 1971 censuses have been rendered virtually non-comparable in terms of female labour force participation[2]. Given that the actual changes in rural female work participation between 1961 and 1971 cannot readily be separated from spurious changes due to definitional modifications, the apparent enormous decline in this participation between the two censuses (from 31.42% in 1961 to 14.55% in 1971, on an all-India basis) cannot be related meaningfully to other economic/structural changes in the country. What is noteworthy is that where matrilineal tribal communities dominate, as in Meghalaya and Nagaland, even by the 1971 census definitions, a high proportion of the rural female population is reported to be doing productive work as its main activity, and falls within the 'worker' category (39.20% in Meghalaya and 50.22% in Nagaland, relative to below 20.0% in most other States - see the table in Banerjee, this volume). A part of the higher female participation in 1971 in these two States, vis-a-vis other States, probably reflects the effect of cultural factors on actual work participation but a part may also be due to the more accurate reporting of such work participation. For instance, States without a dominant matrilineal community, such as Madhya Pradesh and Andhra Pradesh, which also reported high rural female work participation in 1961, showed a considerable decline in 1971 (from 48.60% to 22.01% in the former State, and 45.99% to 28.59% in the latter).

Since the effects of cultural norms on the census figures relating to women will tend to vary between states, a cross-sectional analysis for measuring the impact of inter-state differences in modernisation/urbanisation etc. on women, also presents a problem.

(iv) Measurement of Female Unemployment

Even more problematic, however, is the measurement of female unemployment. In the 1961 and 1971 Indian censuses, as well as in the Indian National Sample Survey (NSS) data discussed further on, unemployment is measured essentially in terms of a person's 'availability' for work. The question of 'availability for work' becomes difficult to tackle since (a) it touches not merely on the number of people seeking work or available for work but on the period for which they are available; and (b) the concept of availability is subject to specific biases of interpretation when applied to women. In both the 1961 and 1971 Indian censuses, unemployment among rural women would have been under-estimated insofar as relatively few would have been reported as actively seeking work, partly because of the cultural bias (in reporting) mentioned earlier, and partly because they would (in actuality) tend to fall back on housework when they do not readily find work, and be classed as housewives.

The Indian censuses do not provide data on the time intensity of work effort - an aspect which in fact can prove to be of primary importance for a meaningful measurement of rural unemployment in Third World countries, where unemployed time rather than unemployed persons would be the significant factor. Some light is thrown on this aspect by the Indian NSS, which provides information on the intensity of work effort during the survey's reference period; but there are biases here as well: In the 27th NSS survey (see Survey Design and Research Division, NSSO, 1977), for example, those counted in the labour force were people already in employment or classifying themselves as 'available'. For policy purposes, however, this method of measurement is not likely to produce an accurate assessment of the 'available' female labour force. Firstly, as already mentioned, the classification of women's availability for work depends greatly on the attitude of the respondent towards women's employment. Secondly, a woman's availability for work can depend crucially on there the work is provided. The question - are you available for work if the work is brought to the home? - is likely to elicit a very different answer from the straightforward 'availability' question, interpreted as availability for work outside the home. Thirdly, the criterion would fail to measure unemployment among the 'discouraged drop-outs', that is women who are usually working during the busy seasons but who 'withdraw' into domestic work during the lean seasons, due to want of work (Bardhan, 1978, p.A-25). They

would not be counted as part of the work force when the survey week falls in the lean season. Men, in contrast, usually continue to look for work outside the home even in the lean seasons, and therefore continue to be categorised as being available for work.

This bias could be corrected, to some extent, as attempted in the 27th NSS round, by measuring the person's usual status (identified in terms of the activity pursued for a year or more in the past and likely to continue in the future) in addition to current status. It has been suggest that for a women whose usual status is that of a 'worker', days spent in domestic work during the reference week could be counted as unemployed days even when she has not reported as being 'available for work' (Bardhan, p.A-25). Of course to the extent that some of the time spent on domestic work may represent voluntary withdrawal, this measure would somewhat over-estimate involuntary unemployment. One might, however, suggest that there is a base level of domestic work beyond which a women would be available for work if there were appropriate work. The time devoted to domestic work during the busiest season of the year could be one possible, albiet crude, measure of this.

Some of the biases noted are those of most research and researchers in this field and are found even in micro-level, region-specific data. Sometimes cross-checking can help to pinpoint a bias. For instance, in analysing farm survey data relating to a sample of 99 farms in the Andhra Pradesh State of India, I found that 34 of the farms actively used female family labour for crop production activities: the average annual labour hours per adult family women totalled 105 for all agricultural operations. Yet only 6 of these 34 farms reported family women as being involved in agricultural work (Agarwal, 1981).

Deere (p.11) similarly points to the difference between the results obtained when estimates of women's work participation in Peruvian agriculture were based on actual observation of activities (through survey data), and those obtained when census definitions were used to separate the economically active from the inactive.

IV Coverage Inadequacies

In addition to the noted biases, existing macro-data sources are severely limited in their ability to provide details about the characteristics of employed and unemployed women, such as their status as household heads, the number of dependents they have, their economic status and agrarian class, their level of skills/education and the period for which they need work.

While collection of data on family headship is an existing feature of many censuses in Third World countries (for example in India, the Philippines, and a number of African countries), the information is often not available in published census reports or, if available, is distorted by cultural and definitional biases. Also, as noted earlier, information gleaned from micro-studies, fragmentary though it might be, points to an increase in female-headed households in the Third World, as a result of male migration, or of the dissolution of marriages, or of the desertion of women by their husbands, such that the women are left economically responsible for their own and their dependents' survival.

However, no macro-level estimates exist in most cases. In the Indian census, for example, data on family headship is collected but the reports do not provide comprehensive estimates. Specific sample studies give some limited idea of this. Dandekar and Unde's (1964) study for West Bengal, India, for instance, noted on the basis of the 1951 census survey covering 248,511 households (rural plus urban), which formed 5% of the households in 12 districts of the state, that 10% of these households were headed by women, 16% of whom were married, 79% were divorced and 4% were single.

Buvinic and Youssef, as noted, have sought to provide some estimates of likely female-headed households, by applying the typology of such households gleaned from micro-data to aggregate data from 74 non-socialist Third World countries. Using census information they identify the women who, because of their current marital/family status, are likely to become household heads. While this does not give the exact number of such women in these countries, it provides an approximation of likely magnitudes and trends, and reinforces the need for more reliable quantification of the incidence of such households.

They also provide several examples, largely from Africa and Central America, of how census data tend to under-enumerate female-headed households: They note that in countries where male supremacy is the norm, both the enumerators and the respondents are pre-disposed to identify a man rather than a women as the household head. Even a boy of 12 could be cited or could cite himself as a household head in the absence of a male adult!

In these circumstances, even when definitions are somewhat more specific, the chances are that men rather than women will be identified. Consider the following definitions: In the Honduran census, a household head is "that person who provides the chief source of income for the household or who is regarded as such by its members" (my emphasis, Buvinic and Youssef, pp.8-9). Again in the Philippine Census the head is "a person who provides the chief source of income for the household unit; it is the eldest person, male or female, who is responsible for the organisation of the household or who is regarded as such by the members (my emphasis, Buvinic and Youssef, pp.8-9). Sometimes the census instructions themselves are biased: The instructions for the 1951 Indian census were as follows: "The head of the household is the person on whom falls the chief responsibility for the maintenance of the household. You need not however, make any enquiry about this and you should treat as the head of the household any person who is actually acknowledged as such" (!) (my emphasis; Census of India, 1971, p.636).

The effect of these biases is clearly established through a comparison of census data with micro-studies. For example, Buvinic and Youssef noted that in the 1973 Costa Rican census only 16.4% of all households were classified as headed by women. A sample study of 82 women drawn from poor households from different parts of the country found that 62% of the sample women were de-facto household heads with economic responsibility for the family. Only in rare cases, such as in the Venezuelan census, do the census and micro-survey estimates tally. The identification of female household heads and their characteristics, particularly in terms of their economic responsibilities and their economic means, clearly is important in planning income-generating schemes.

Also necessary is accurate information on the seasonal nature of agricultural work, and the seasonal fluctuations in the need for additional work. This is again a generally neglected feature in macro-data collection. Even the Indian NSS data, which consider the time intensity of work effort, do not adequately capture this dimension. Any attempt at correction would also need to take account of the possible divergence in the seasonal pattern of men's and women's work, in that their periods of high and low labour input and availability, may not match. Much would depend on the task-specificity of female labour cultivation of certain crops such as paddy relative to say wheat, and in the performing of certain operations such as sowing, weeding and harvesting relative to other operations such as ploughing (which is done almost exclusively by men), would tend to introduce differences between men and women in 'availability' at a given point in time. As a result, attempts at alleviating male unemployment in certain seasons (even insofar as such flexibility could be introduced in work schemes) may not, at the same time, help reduce female unemployment.

In this context, an important additional dimension is the possible difference between different socio-economic classes in the sexual division of labour. The tendency of women to withdraw from work in the fields, with an improvement in the economic positions of their households (provided there are other earning members), as noted in parts of Asia (Boserup, 1970, p.25; Epstein, 1973, p.199), as well as in Africa (Brausch, 1964, p.352), would be another aspect requiring consideration in employment planning, and hence in data gathering on rural women's work.

V Some Conceptual Biases in Data Use

In addition to the lacunae and shortcomings of available data, their actual use in economic reflects a male bias. This is particularly apparent when we consider the question of the weights to be given to female labour time vis-a-vis male labour time.

In empirical studies dealing with aspects of total farm employment, an aggregation often carried out is the conversion of female labour time to 3/4 or 1/2 of male labour time (for instance, Bishnoi, 1966; Gollas, 1970; Kahlon, et.al., 1973; Sanghvi, 1969; Sidhu, 1974), labour time being measured usually in hours or in terms of a standard 8 or 9 hour day.

The conversion is typically done on an a priori assumption that female labour is less efficient than male labour. Sometimes, the fact that women are generally paid 3/4 or 1/2 of what men are paid is used to justify the use of these values as conversion rates. Sanghvi, for instance, even while noting that in certain operations such as cotton picking, women are more efficient than men, still converts women's labour time spent in this task to 3/4 of its value, since he finds that women are paid 3/4 of what men (taken as the standard unit) are paid per hour. The discounting of women's labour time vis-a-vis male labour time on the basis of differential wage rates is also common in the frequently-used reports of 'Studies in the Economics of Farm Management' in India.

This rationale clearly is a questionable one, since it ignores the fact that differences in wages paid are not necessarily indicative of differences in productivity. The employer's own bias and his ability to command female labour at cheaper rates, for instance, would be reflected in women receiving a lower wage than men for identifical agricultural tasks.

The question of the relative efficiency of different types of labour in fact is a complex one, related among other things, to the task being performed, the technique/implement being used, and the age and nutritional intake of the worker. If a systematic conversion has to be done then it needs to be done for both men and women. Some attempts at weighting, by one or more of these criteria, have been made (e.g. Njoku cited by Spencer, 1972, p.14, by agricultural operations, gender and age; Gollas, and Waddel and Krinks, 1968, by gender and age). Again, however, the weighting is on a priori grounds. It is nevertheless of interest to note that Njoku, who alone among those mentioned also looks at tasks performed, assigns an equal or higher weight to female labour, relative to male labour, in all operations other than land clearing (where a conversion rate of 3/4 is used for women), this being an operation requiring greater physical strength. Similarly, as noted in some other studies (for instance, Agarwal, 1977; and Spencer, 1972: Both assume a one-to-one equivalence for male and female labour), in the particular operations (e.g. weeding, harvesting) in which women are observed to be most commonly employed, there is no obvious a priori reason to assume a lesser efficiency.

Observations on comparative male-female efficiency in the field in any case are rendered difficult when there is a sex-typing of tasks, so that there is a pre-dominance of women in certain tasks and of men in others. In the earlier-mentioned study by Sanghvi, for instance, it was not indicated how the conclusion about the higher efficiency of women in cotton picking and their lower efficiency in harvesting of other crops (such as groundnut) was arrived at, when in both cotton and groundnut harvesting there was found to be no use of male labour on most plots, so that no satisfactoryco mparison could in fact have been made.

Indeed, little systematic research has gone into actually comparing the relative efficiency of men and women in given tasks. In this overall research void, studies such as the one conducted by the Government Potato Seed Farm in Mattewara (Punjab, India) during 1973-74 to test the efficiency of different potato-digging equipment, stand out. In this study it was found (see the following table) that for the equipment tested, women were over three times as efficient as the men.

Type of Equipment	Picking rate per Labourer in meters per minute		Hours taken for the Same job		Potato Yield kg/20 meters	
	Men	Women	Men	Women	Men	Women
Spring time cultivator	1.6	5.2	192	53	17.1	23.6
Potato digger elevator	1.4	4.0	185	69	18.2	23.9

Source: Kaul, Kalhat and Shyam (1974).

This study while by no means conclusive, is nevertheless, indicative, and underlines the need for a re-questioning of hitherto a priori assumption and for more detailed research.

VI What Can Be Done?

The above review clearly points to the need for taking corrective measures in the data gathering process and for re-examining analytical concepts as they relate to women, so that the shortcomings highlighted can be overcome and a more adequate data base provided.

While it is not always easy to suggest or to implement corrective measures, especially for overcoming respondent and enumerator biases introduced by cultural perceptions, nevertheless some move towards obtaining more accurate data can be made. For instance, a specific attempt can be made to enlist female enumerators and to seek out female respondents. While this cannot entirely overcome the bias, in that women respondents' self-perceptions could still colour the answers given, it can help to reduce the extent of the bias. In some cases the accuracy of the data could be considerably improved by this as, for instance, where women's and men's interests within the household clearly diverge[3].

Further, insofar as the definitions adopted to identify the women who are employed tend to aggravate cultural biases, appropriate modifications in these definitions and the way questions are framed would help in reducing the extent of the bias. This would hold true too where information is collected about the characteristics of the women, such as whether they are heads of their households.

Also, a sounder empirical base for assessingthe time contribution of rural women in the agrarian economy is needed. For this, a detailed activity-wise analysis of their work would be essential, to capture the seasonal, operation-wise, crop-specific variations in the work, as well as to make a more appropriate and explicit distinction between domestic and non-domestic work. An activity-wise analysis would also be necessary for identifying and measuring the likely impact (time saving or using, income generating or reducing) of technical change and agricultural modernisation programme on rural women's work.

In this context, the possible differential effect of technical change on women belonging to different socio-economic classes needs to be kept in mind, and information obtained by class divisions: Certain innovations may reduce the work burden of women in higher income households, and at the same time also reduce the income-earning capacity of the poorest women. An example of this is the introduction of rice mills in parts of Asia, which have saved many women of small cultivator households the burden of hand-pounding the rice, but have deprived the women of landless households, who performed the work for the large cultivators, of a crucial source of livelihood (see Collier, et. al., 1974, for Java; Abdullah and Zeidenstein, 1975, for Bangladesh; and Harriss, 1977, for India).

Seeking data on the time allocation patterns of rural women on a national basis, of course is not a practical proposition. However, detailed region-specific, micro-level research focussing on these aspects, could help to provide more appropriate definitions for wider official data gathering. It would be possible, for example, to specify more clearly, which activities should be taken as economically productive so that the women involved in such activities could be counted as 'worker': This would also help to reduce respondent biases. Insofar as the pattern of activities itself differs between regions, more region-appropriate definitions could be adopted. Also, data obtained through such micro-studies could help provide correction factors for macro-data.

In this context, greater use could be made of existing farm survey information. In India for example, data gathered annually by the agricultural universities of different states, under the 'Cost of Cultivation Surveys'4, constitute a rich and relatively little explored source of information on female labour participation in crop production activities.

To take account of the seasonal aspects of unemployment, the periods of data gathering need to be more closely alligned with the lean and heavy periods of women's and men's agricultural activities. Some existing data sources such as the Indian NSS could easily be adapted in this way, with surveys being conducted in apporpriate periods of the year. To the extent that the lean and heavy periods of work diverge between women and men, this might require conducting additional surveys; or a separate NSS Round devoted to assessing women's unemployment, using female respondents and female enumerators as far as possible, could be conducted. Initially perhaps this could be attempted on a pilot basis. The question of the correct weighting of women's work time and productivity, likewise needs to be tackled from a sounder empirical base.

To sum up, if we are genuinely concerned that the data gathered provide an honest picture of the dimensions of unemployment and poverty that characterise the underdeveloped world, and if such data are to serve as an appropriate base

for policy formulation and for initiating developmental schemes, ensuring their accuracy becomes crucial. In this context, the inadequacies of available data on various aspects of rural women's work participation requires sober and immediate attention.

The practical problem of successfully incorporating these data into policy would of course still loom large. The issues this raises are complex and a discussion on them is outside the purview of this paper. Nevertheless it must be pointed out that instituting work schemes which are flexible enough to fit in with the time pattern and location of work for which the women indicate their 'availability', and which are in keeping with an existing sexual and social division of labour, may not always be practicable. At the same time, the incorporation of these women in state-instituted income-generating schemes which do not have this flexibility, may require a basic re-structuring of work tasks both within households and between households. Insofar as it may not be possible to institute such changes without altering the social and political context within which work is conducted and work schemes are conceived and implemented, the question of rural women and work in fact raises more fundamental issues than are apparent at first glance.

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FOOTNOTES

1. Researchers looking at one FFW programme in Bangladesh, on noting the absence of women workers, made enquiries. The local project staff assured them that the women would not work due to social and religious barriers. When women begging in the area were approached, they said: "Yes, we would like to do earthwork, but they do not recruit women" (Chen and Ghuznavi, p.13).

2. A sample re-survey was carried out to provide an adjustment factor to make the two censuses comparable. However, strong reservations have been expressed by some scholars regarding the accuracy of the adjustment factor so obtained (e.g. Sinha, 1975).

3. Consider the case of a Food Patrol Survey which was carried out in New Guniea in 1972, for assertaining how soon the potato crop would be ready so that famine rations could be withdrawn. The women cultivated the crop which gave them authority over the family's food supply. Rations, however, were usually supplied to the men, which gave them powers of patronage in the household and political influence in the village. It was thus in their interests to have the rations continue. The Patrol found that the information it obtained from the villages it visited, depended critically on whether it first met the men or the women. Men claimed that the crop was a failure; women took the Patrol to the fields and proved that the crop was prospering and would soon be ready for harvesting (Ingrid Palmer, personal communication). Clearly, in such cases, the gender of the respondent becomes a significant factor.

4. These data are collected under the "Comprehensive Scheme for Studying the Cost of Cultivation of Principal Crops" usually by the agricultural universities of the different States, for the Directorate of Economics and Statistics, Ministry of Agriculture, New Delhi, India.

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15 December 1981

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INTEGRATION OF WOMEN IN ECONOMIC DEVELOPMENT

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Economic development is generally conceived and defined to mean growth in per capita Gross Domestic Production. It follows that, to contribute to economic development, women must engage themselves in what is called 'economic' or 'gainful' activity as distinct from 'household' or 'non-market' activity. In other words, for a full integration of women in economic development, women must enter the 'labour force' on an equal footing with men.

2. That the participation of women in the labour force lags far behind that of men is well known. I shall cite some Indian data to illustrate the dimensions and the nature of the problem.

3. Detailed results of the recent (1981) Census of Population are not yet available. Hence, I shall refer to the 1971 Census of Population. According to the 1971 Census, the population of India was 548.159 million of which a little less than of half(48.18 per cent) were women. The 1971 Census classifies the population, in the first instance, into 'workers' and 'non-workers'. The workers are those 'economically active' or 'gainfully employed'. They are then classified by their main economic activity. In Table-1 below are shown the summary results of the 1971 Census.

TABLE - 1

Workers and Non-workers: 1971

	Men (Million)	Women (Million)	Women per 100 men
Total Population	284.049	264.110	92.98
Workers	149.146	31.339	21.01
Cultivation	68.963	9.304	13.49
Agricultural Labour	31.698	15.796	49.83
Household industry	5.021	1.331	26.51
Other economic activities	43.464	4.908	11.29
Non-workers	134.903	232.771	172.547
Age 0-14	111.012	108.564	97.79
Students	32.512	18.179	55.91
Household duties	1.309	11.452	874.87
Others	77.191	78.933	102.26
Age 15 & Above	23.891	124.206	519.87
Students	10.914	3.468	31.78
Household duties	1.025	106.120	1035.32
Others	11.952	14.618	122.31

Source: Census of India 1971

4. It will be noticed that while the ratio of women to men in total population is 92.98 women per 100 men, the same among workers is only 21.01 while among non-workers it is 172.547. In Table-1, the workers are classified into four classes according to their main activity, namely cultivation, agricultural labour, household industry and other economic activities. The ratio of women workers to men workers is highest in agricultural labour being 49.83 women per 100 men.

The ratio is 26.51 in household industry, 13.49 in cultivation and only 11.29 in other economic activities.

5. In Table-1, the non-workers are shown divided into two age groups, namely 0-14 and 15 and above. In the younger age group, the ratio of girls engaged in household duties is 874.87 girls per 100 boys; this ratio increases to 1035.32 in the higher age-group of 15 and above. On the other hand, among students, the ratio of girls to boys is only 55.91 girls per 100 boys in the age group 0-14; this ratio declines to 31.78 in the age group of 15 and above. In both age-groups, there is an excess of non-working women over non-working men other than students and those engaged in household duties.

6. We may view these figures a little differently by expressing the workers and non-workers among men and women to the total population. This is done in Table-2 below:

Table - 2

Workers and Non-workers: 1971

	Percent of total population	
	Men	Women
Workers	52.51	11.87
Non-workers	47.49	88.13
Students	15.29	8.20
Household duty	0.82	44.52
Others	31.38	35.42
Total (million) = 100	284.049	264.110

Thus the principal difference between men and women affecting participation of women in economic activity is the fact that fully 44.52 per cent of women are tied down to household duties while less than one per cent (0.82 per cent) men share that burden. This has prevented women participating in economic activity equally with men; while 52.51 per cent of men participate in economic activity, only 11.87 per cent of women do so. The burden of household duties has also kept women behind in schooling; while 15.29 per cent of men attended school, only 8.20 per cent of women did so. To treat men and women as equal and to let the women participate in economic activity and attend school on par with men will require men to share the burden of household duties equally with women. This is not possible without a fundamental change in men's attitude towards women. In the following, we shall outline the main contours of the problem.

7. Let us first consider the first three activities listed in Table-1, namely, cultivation, agricultural labour, and household industry. The three activities together account for 73.20 per cent of all workers. These are essentially unorganized activities based on pre-capitalist modes of production. The position of women in the households is an integral part of the resulting social structure. What, for purposes of computing Gross Domestic Product, we recognise as 'economic' activities in these households are often inseparably mixed with the household duties not regarded 'economic'. This is particularly true of women's activities. Therefore, it is only by some kind of subjective judgement, influenced by tradition and prejudice, that a woman even when she participates in the 'economic' activities of the household is reported a 'worker' or a 'non-worker'. Hence, some of the women reported 'not working' might indeed be 'working' and participating in 'economic' activities of the households. But the fact remains that the participation of women in the 'economic' activities of the households is limited firstly by the demands of the household duties not considered 'economic' and secondly by the demand for labour in the 'economic' activities. If the latter demand is regarded as given, women's participation in economic activities of the households can be increased only at the expense of the household duties and by reducing men's participation in 'economic' activities. In other words, for a given demand for labour in agriculture and household industry, increase of women's participation in these activities will need men sharing the economic activity as also the household duties with their women folk. That, of course, is the substance of equality between men and women.

8. The 'Other economic activities' listed in Table-1 comprise non-household industry, trade, business, professions and services. They account for 26.80 per cent of all workers. These activities are conducted largely outside the households. This may be seen by reference to the employment status of workers engaged in these activities. The 1971 Census classifies the workers engaged in these activities into four classes, namely, Employers, Employees, Single Workers and Family Workers. In Table 3 below are given the summary results.

TABLE - 3

Workers in Non-Household Industry, Trade, Business, Profession and Services classified by Class of Workers

Class of Worker	Percentage of Workers	
	Men	Women
Employers	5.00	1.32
Employees	62.21	65.50
Single Workers	27.48	23.73
Family Workers	5.31	9.45
Total (million) = 100	43.464	4.908

Source: Census of India, 1971

9. It will be seen that among the workers engaged in these activities, about two thirds are either employers or employees; and one-third are either single workers or family workers. These proportions are about the same among men and women workers though, we should note, the proportion of employers and single workers is somewhat larger among men than among women. The major difference of course is the fact that while 43.464 million men are engaged in these activities, only 4.908 million women are so engaged so that the ratio of women workers to men workers is only 11.29 women per 100 men.

10. As mentioned above, these activities are conducted mostly outside the households. This is evidenced by the fact that family workers constitute only 5.73 per cent of all workers in these activities. However, there are a few activities included in this group about which this is not quite true. They are agricultural and livestock production (major industry groups 00 and 02 of NIC) and hunting and fishing (major industry groups 04 and 06 of NIC). In these activities, family workers constitute 31.22 per cent of all workers. Evidently, these activities are conducted close to the households and are akin to agriculture and household industry. The participation of women in these activities is very low; the ratio of women workers to men workers is only 10.44 women per 100 men which is even less than that in cultivation (13.49). It seems that the problems of increased participation of women in these activities are similar to those in agriculture.

11. If we omit these activities (00, 02, 04 and 06 of NIC) from non-household industry, trade, professions and services, the rest are primarily conducted outside the household; family workers constitute only 4.31 per cent of all workers engaged in them. Nevertheless, the participation of women in these activities is not much different; the ratio of women to men workers is only 11.34 women per 100 men. In the following, we shall examine these activities more closely to identify in which of them women's participation is relatively greater.

12. In Table 4 below, we show the ratio of women to men workers, among all workers and among employees, in different industry groups. It will be noticed that the ratio of women to men workers varies widely between different industry groups. It is highest in (01) Plantation being 65.87 women per 100 men; among employees in plantations, the ratio of women to men employees is even higher being 73.78 women employees per 100 men employees. In no other industry the ratio is higher that 50 women per 100 men.

13. The industry groups with relatively high women's participation are: (12-19) Mining & quarring other than coal and petrolium with 27.07 women workers per 100 men workers and 25.85 women employees per 100 men employees; the high ratio of women is mainly on account of stone quarring. In (22) manufacture of beverages, tobacco and tobacco products, the ratio is 33.89 women workers per 100 men workers and 2 9.79 women employees per 100 men employees; the high ratio is mainly because of high ratio of women in bidi-making.

14. Industries with somewhat lower ratios of women are: (20-21) manufacture of food products with 19.77 women workers per 100 men workers and 16.29 women employees per 100 men employees; (26) Manufacture of textile products with 20.45 women workers per 100 men workers but much lower ratio of 13.03 women employees per 100 employees; and (32) Manufacture of non-metalic mineral products with 19.30 women workers per 100 men workers and 19.50 women employees per 100 men employees.

15. Industries with still lower ratio of women are: (31) Manufacture of chemical and chemical products with 13.71 women workers per 100 men workers; (5) Construction with 11.77 women workers per 100 men workers; and (10) coal mining with only 7.47 women workers per 100 men workers. In

Table 4

Ratio of women to men workers in different industry groups

Division/major group of National Industrial Classification (NIC)		Women workers per 100 men workers	
		All workers	Employees
(01)	Plantation	65.87	73.78
(03)	Agricultural services	8.28	5.43
(05)	Forestry & logging	14.47	8.02
(10)	Coal mining	7.54	7.47
(11)	Crude petrolium & gas	2.03	1.71
(12-19)	Other mining & quarring	25.85	27.07
(20-21)	Manufacture of food products	16.29	19.17
(22)	Manufacture of beverages, tobacco & tobacco products	29.79	33.89
(26)	Manufacture of textile products (including wearing apparel other than footwear)	13.03	20.45
(31)	Manufacture of chemicals and chemical products	13.59	13.71
(32)	Manufacture of non-metalic mineral products	19.50	19.30
(Other major groups of Division 2-3)	Other manufacture and repair	4.08	3.99
(4)	Electricity, Gas & water	1.81	1.78
(5)	Construction	10.11	11.77
(65,67)	Retail trade in food, fuel, household utilities & durables	8.53	3.12
(60-64, 66, 68-69)	Other wholesale & retail trade, restaurants & hotels	3.29	2.58
(7)	Transport, Storage & Communications	3.43	3.05
(8)	Finance, Insurance, Real Estate & Business services	3.05	3.74
(90)	Public administration & Defence services	3.35	3.31
(91)	Sanitary services	43.65	40.83
(92)	Education, Scientific, & Research services	27.46	27.81

Table 4 (continued)

Ratio of women to men workers in different industry groups

Division/major group of National Industrial Classification (NIC)		Women workers per 100 men workers	
		All workers	employees
(93)	Medical & Health services	30.62	37.74
(94)	Community services	6.97	9.24
(95)	Recreational & Cultural services	7.38	5.29
(96)	Personal services	30.03	40.98
(98)	International & Extra-territorial services	24.41	24.68
(99)	Other services	16.24	12.59

Source: Census of India, 1971

all the three cases, the ratios of women among employees are about the same as among all workers. In (05) Forestry and logging, there are 8.02 women workers per 100 men workers but the ratio of women a mong employees is much higher namely 14.47.

16. In (9) Community, Social, and Personal services, the participation of women is relatively high. The services with particularly high ratios of women are: (96) Personal services with 40.98 women per 100 men workers which is largely due to domestic services, (91) Sanitary services with 40.83 women per 100 men workers; (93) Medical and health services with 37.74 women per 100 men workers; (92) Education, Scientific, and Research services with 27.81 women per 100 men workers; and (98) International and Extra-territorial services with 24.68 women per 100 men workers. Among these, in sanitary, educational and international services, the ratios of women among employees are about the ratios among all workers. But, in medical, health and personal services, the ratio of women among employees is much smaller than among workers.

17. In the remaining industry and service groups, the participation of women is very low; in most of them, the ratio of women workers is less than 5 women per 100 men.

18. Such are the facts regarding women's participation in economic activity in India in 1971. It is against this background that we should consider how to increase women's participation in economic activity so that women may contribute to and get fully integrated in economic development.

19. We should begin by recognising the regrettable but hard fact that men are unlikely, in the near future, to share the burden of household duties and housekeeping activities that at present is entirely borne by women. Hence, the first step should be to lighten this burden by taking over as much of it as possible in the public services. There are three main components: cooking and bringing forth and bring up children. In the Indian context, associated with cooking are two arduous and time-consuming duties: fetching water and collecting firewood and other fuel.

In spite of much planned economic development, these two needs are sadly neglected because women are providing them silently and patiently. Men in powermust at least take note of these two basic needs and do something about them. It is also necessary to do as much of cooking as possible in public kitchens, bakeries, etc. This will take considerable burden off women's shoulders. Besides, it will economise in fuel which is important in fuel short economies.

20. The other components are bringing forth and bringing up children. The first cannot be shifted on to men but can be reduced greatly by an active family planning programme which is important in its own right in all labour surplus economies. The second component, namely bringing up children can and should be taken over almost entirely in the public services by providing creches, nurseries and pre-primary schools. This will not only lighten women'sburden but is also likely to improve upbringing of children.

21. If a large part of cooking and most of upbringing of children are thus taken over in the public services, it will greatly reduce the burden of household duties. More girls will be able to attend schools and women will have more free time for 'economic' activities in which men will begin to find them equally useful. Moreover, these functions, when taken over in public services, will create economic activity eminently suited to women's immediate capabilities.

22. The second step is a more active and positive policy to promote greater employment of women. As we have seen , the participation of women in sanitary, educational, medical and health, personal and international services is relatively high. Neverthless, it is much short of being on par with men; the ratio of women to men workers in these services varies from 25 to 40 women per 100 men. We should enqquire why it is so and, to bring it up, accept and initiate an active policy of preference for women in these services. For the preference to be effective, certain modifications in the service conditions for women will be necessary.

23. Because men will not share the burden of household duties even when the wife is working, working women have to bear the burden of employment and household duties both. Even if the burden of household duties is reduced by providing necessary public services as suggested above, women cannot afford to stay away from the homes. This prevents women, particularly rural women, seeking employment in such services because it is not possible to get private employment in the place of residence and public employment is transferable from place to place. In fact, it is often a part of public policy that an employee is not posted in the place of his residence. There are good reasons for this policy. But, in practice, the consequences are not necessarily those intended. In the case of women, the consequence are most undesirable; it has effectively kept women out of employment. Hence, the policy needs be changed,at least in the case of women. Consider, for instance, the educational, medical, and health services. These are largely public services spread all over the country including rural areas. It will go a long way to promote employment of women if, as a matter of policy, local women are given preference in these services. It may be said that if local women are employed, they will be occupied with housekeeping and neglect their official duties. This is true though it is not necessarily true that men employees posted out of their place of

of crucial importance if a change is to take place in the attitude of men towards women.

26 This impact will be even greater if the employed women are not wives of employed men but are wives of men not having a salaried job such as for instance a farmer, an agricultural labourer, or a village artisan. It is generally conceded that the wife of a school teacher may be a school teacher. But it is not readily conceivable that the wife of a farmer may be a school teacher. The reason is simple: a teacher, or generally a salaried person is considered, for good or bad reason, superior to a farmer or a labourer or an artisan; and wife could never be superior in status to her husband. It is important that men get used to this idea so that one day they may see that there is nothing wrong about it; that men and women are equal in the sense that not every man is superior to every woman; that, the husband does not have to be superior to his wife. The last one is indeed a difficult notion to which not only men but also women will take some time to get used to. The simplest way is to supply visible evidence.

27 Compulsions of household responsibilities is only one hurdle in the way of greater employment of women. Another, or probably a part of the same, is maternity. Maternity is an unavoidable interruption in the career of a woman and men have failed to show adequate appreciation of it. Generally, maternity leave of three moths is allowed and often grudgingly. With hardly any facilities of public creches and nurseries, and any assistance from men, this is not adequate. If a woman's caree r is to survive the interruption of maternity, she must be given at least three months' leave with full pay, three months; leave with half pay and where necessary upto eighteen months of leave without pay. This should be done consistently with the public policy regarding family planning. For instance, the extra facility may be denied in the case of a maternity if the mother has two living children.

28 We have so far referred to public services because that is where necessary public policy can be easily directed. But similar policy should be promoted in private employment as well. For instance, we have seen that there is sizable employment of women in manufacturing of food products, beverages, tobacco and tobacco products, textile products and non-metalic mineral products. Evidently, women are considered suitable for this employment. If so, steps should be taken to increase their employment in these industries. Private employers are reluctant to employ women because of, among other prejudices, costs of maternity benefits. The problem should be examined fairly and, if necessary, <u>costs of maternity benefits</u> should be met from public funds.

29 In the above, we have mentioned some services and some industries for promotion of women's employment. There is no implication that these are the only spheres suitable for women's employment. For instance, there

are many other activities such as trade and commerce, finance, insurance, and business services, where suitably qualified women should prove equal to men. Indeed, barring a few activities requiring heavy physical work and involving peculiar physical hazards, there is no activity in which women should not do as well as men. We chose to refer specifically to some services and some industries, because in these fields women are already accepted in some numbers so that it may be easier to initiate an active policy to promote women's employment.

30 In a developing economy, organised or salaried employment is limited. For instance, in India, not much more than 10 per cent of the labour force is employed in the organised sector. Hence, promotion of women's employment in this sector alone cannot go a long way in integrating women in economic development. But this employment is important because, as earlier noted, it carries with it a superior status in the society. The real hurdle in the way of women's participation in economic activity and integration in economic development is the subordinate status that has been assigned to a woman in a male dominated society. Greater employment of women in the organised sector will help to abolish this subordination. Once she is accorded an equal status, there is little doubt that woman will prove equal to man in all economic activity, organised as well as unorganised; nay, in all activity, economic as well as social and political.

31 Greater participation of women in social and political life is equally important for their integration in development because development is not merely economic; its definition in terms of growth in per capita Gross Domestic Product is too narrow a concept. Moreover, participation in social and political life carries its own status. Here too, women are lagging behind because of the male dominance of social and political life. To promote women in these fields, it may be useful and necessary to reserve certain areas exclusively for women. For instance, local government, say at the village level, could be reserved exclusively for women. Again, there is no implication that women are good only at this level. Local government is suggested only as an appropriate sphere to initiate a positive policy of promotion. If local government is placed in the hands of women, it will raise their status in the society and experience gathered at this level will help them rise in higher levels of social and political life.

32 As we have emphasised repeatedly, the crux of the matter is the subordinate status accorded to woman in a male dominated society. This must be attacked internally at its cultural roots and externally by deliberately promoting women in status positions in society. This is a complex problem and unavoidably we have outlined its several aspects only in the Indian context. We hope the Indian context and illustration of the problem will not be altogether irrelevant to the situations prevailing in other countries of the Asian and Pacific region. But, of course, each country must assess its own social environment and pursue policies appropriate to it.

Technical Seminar on
WOMEN'S WORK AND EMPLOYMENT
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BASIC DATA ON WOMEN'S ACTIVITY - RESULTS OF NSSO 32ND ROUND SURVEY ON EMPLOYMENT AND UNEMPLOYMENT (1977-1978)

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In the NSSO-32nd round survey on Employment and Unemployment carried out through out India - both rural and urban areas, during July 1977 to June 1978, data on various characteristics of activity of women and children have also been collected at a sufficiently disaggregated level. Some survey results have since been tabulated and released[1]. Considering that availability of some basic data on activity characteristics of women and children in this seminar would help making the discussion fruitful, some data, on a selective basis, have been compiled and presented here at the global level (all-India) and avoiding, as far as practicable, all cross tabulation. Cross classified disaggregated data have, however, been already released[2].

No attempt has also been made to provide any annotation of the data. Only the two approaches adopted for classification of the population by their activities, have been explained in the Annexure.

1/ NSS Draft Report No.298 - Report on the second quinquennial (July 1977 - June 1978) survey on Employment and Unemployment.

2/ Women's activities in rural India - A study based on NSS 32nd round (1977-78) survey results on Employment and Unemployment, NSSO, Deptt. of Statistics, June, 1981.

A. HOUSEHOLD CHARACTERISTICS

1. PERCENTAGE DISTRIBUTION OF HOUSEHOLDS IN RURAL AND URBAN INDIA BY HOUSEHOLD MONTHLY PER CAPITA EXPENDITURE CLASS :

household monthly per capita expenditure class(Rs.0.00)	rural	urban
(1)	(2)	(3)
0.00 - 9.99	0.17	0.24
10.00 - 19.99	1.20	0.36
20.00 - 29.99	7.26	1.92
30.00 - 39.99	14.49	5.57
40.00 - 49.99	16.53	8.76
50.00 - 69.99	26.19	19.94
70.00 - 99.99	19.09	23.34
100.00 - 149.99	10.04	19.86
150.00 - 199.99	2.89	9.34
200.00 and above	2.12	10.63
not recorded	0.02	0.04
total	100.00	100.00

2. PERCENTAGE DISTRIBUTION OF HOUSEHOLDS IN RURAL AND URBAN INDIA BY SIZE CLASS OF LAND POSSESSED :

size class of land possessed (acres 0.00)	rural	urban
(1)	(2)	(3)
0.00 without owned homestead	1.76	22.12
0.00 with owned homestead	1.77	3.61
0.01 - 0.49	33.67	65.58
0.50 - 0.99	6.58	1.29
1.00 - 2.49	17.40	2.52
2.50 - 4.99	16.87	1.91
5.00 - 7.49	8.78	1.00
7.50 - 9.99	3.76	0.44
10.00 - 14.99	4.43	0.63
15.00 - 19.99	2.03	0.31
20.00 and above	2.95	0.57
not recorded	-	0.02
total	100.00	100.00

3. PERCENTAGE DISTRIBUTION OF HOUSEHOLDS IN RURAL AND URBAN INDIA BY HOUSEHOLD TYPE

rural						urban		
households self-employed in		agri-cultural labour households	other labour households	other households	total	self employed households	other households	total
agri-cultural occupations	non-agri-cultural occupations							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
46.11	10.60	29.88	6.88	6.53	100.00	33.48	66.52	100.00

B. PARTICULARS ABOUT WOMEN OF AGE 5 YEARS AND ABOVE IN RURAL AND URBAN INDIA

4. PERCENTAGE DISTRIBUTION (~~USUAL STATUS~~) BY AGE-GROUP (IN YEARS) :

	5-14 (1)	15-29 (2)	30-44 (3)	45-59 (4)	60 and above (5)	all ages (6)
rural	31.25	28.77	20.03	12.46	7.49	100.00
urban	29.53	32.21	19.76	11.58	6.92	100.00

5. PERCENTAGE DISTRIBUTION (~~USUAL STATUS~~) BY EDUCATION :

	illiterate (1)	literate upto primary (2)	middle (3)	secondary (4)	graduate and above (5)	total (6)
rural	78.61	17.53	2.84	0.92	0.10	100.00
urban	42.86	35.05	11.33	8.26	2.50	100.00

6. PERCENTAGE DISTRIBUTION (~~USUAL STATUS~~) BY HOUSEHOLD MONTHLY PER CAPITA EXPENDITURE CLASS (Rs.0.00) :

	0.00 to 9.99 (1)	10.00 to 19.99 (2)	20.00 to 29.99 (3)	30.00 to 39.99 (4)	40.00 to 49.99 (5)	50.00 to 69.99 (6)	70.00 to 99.99 (7)	100.00 to 149.99 (8)	150.00 to 199.99 (9)	200.00 and above (10)
rural	0.08	1.30	7.98	15.49	17.59	26.64	18.28	8.91	2.26	1.46
urban	0.09	0.37	2.53	7.32	11.28	24.11	24.93	17.25	6.36	5.72

7. PERCENTAGE DISTRIBUTION BY ACTIVITY :

	self employed in		regular employed in		casual labour in		work force
	agril.	non agril.	agril	non agril.	agril.	non agril.	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	usual status						
rural	13.98	2.25	0.40	0.66	10.62	0.92	28.83
urban	1.57	4.34	0.14	4.19	1.82	1,97	14.03
	current day status						
rural	12.14	2.16	0.36	0.64	6.30	0.96	22.56
urban	1.46	4.10	0.13	4,14	1.01	1.61	12.45

	unemployed	labour force	students	engagdd in domestic duties	engaged in domestic duties and also free collection etc.	others
	(8)	(9)	(10)	(11)	(12)	(13)
	usual status					
rural	1.68	30.51	9.23	23.12	17.11	20.03
urban	3.03	17.06	23.51	37.76	9.54	12.13
	current day status					
rural	2.28	24.84	9.03	27.72	16.74	21.67
urban	2.12	14.57	26.19	41.08	8.14	13.02

8. LABOUR FORCE ~~PARTICIPATION RATES~~ Distribution of BY AGE (IN YEARS) :

	5-14	15-29	30-44	45-59	60 and above
	(1)	(2)	(3)	(4)	(5)
	usual status				
rural	9.35	37.45	32.28	16.99	3.93
urban	6.63	41.30	31.46	16.34	4.26
	current day status				
rural	10.40	35.88	32.37	17.38	3.97
urban	7.19	39.36	31.92	16.99	4.54

9. AGE-SPECIFIC (IN YEARS) LABOUR FORCE PARTICIPATION RATES ;

	5-14 (1)	15-29 (2)	30-44 (3)	45-59 (4)	60 and above (5)	all ages (6)
	usual status					
rural	9.13	39.71	49.16	41.61	15.99	30.51
urban	3.83	21.87	27.16	24.06	10.52	17.06
	current day status					
rural	8.27	30.98	40.13	34.66	13.17	24.84
urban	3.55	17.80	23.54	21.37	9.57	14.57

Distribution 9

10. LABOUR FORCE ~~PARTICIPATION RATES~~ BY EDUCATION

	illiterate (1)	literate upto primary (2)	middle (3)	secondary (4)	graduate and above (5)
	usual status				
rural	88.10	9.11	1.57	1.02	0.19
urban	58.24	17.91	6.66	10.78	6.41
	current day status				
rural	88.29	9.09	1.48	0.93	0.20
urban	58.71	17.60	5.88	10.89	6.89

11. EDUCATION-SPECIFIC RATES OF LABOUR FORCE :

	illiterate (1)	literate upto primary (2)	middle (3)	secondary (4)	graduate and above (5)
	usual status				
rural	34.19	15.86	16.89	33.65	55.54
urban	23.18	8.17	10.02	22.26	43.64
	current day status				
rural	27.90	12.89	12.98	25.13	46.32
urban	19.96	7.32	7.56	19.22	40.08

12. Distribution of LABOUR FORCE ~~PARTICIPATION RATES~~ BY HOUSEHOLD MONTHLY PER CAPITA EXPENDITURE CLASS (RS.0.00) :

	0.00 to 9.99 (1)	10.00 to 19.99 (2)	20.00 to 29.99 (3)	30.00 to 39.99 (4)	40.00 to 49.99 (5)	50.00 to 74.99 (6)	75.00 to 99.99 (7)	100.00 to 149.99 (8)	150.00 to 199.99 (9)	200.00 and above (10)
usual status										
rural	0.10	1.74	9.92	17.95	18.70	25.23	16.12	7.42	1.75	1.10
urban	0.10	0.65	4.10	10.15	13.11	24.19	21.71	14.42	5.56	6.01
current day status										
rural	0.08	1.56	9.31	17.48	18.41	25.51	16.77	7.80	1.88	1.20
urban	0.11	0.54	3.86	9.92	12.83	24.02	21.87	14.70	5.72	6.42

13. HOUSEHOLD MONTHLY PER CAPITA EXPENDITURE (RS.0.00) - SPECIFIC RATES OF LABOUR FORCE :

	0.00 to 9.99 (1)	10.00 to 19.99 (2)	20.00 to 29.99 (3)	30.00 to 39.99 (4)	40.00 to 49.99 (5)	50.00 to 74.99 (6)	75.00 to 99.99 (7)	100.00 to 149.99 (8)	150.00 to 199.99 (9)	200.00 and above (10)
usual status										
rural	39.35	40.83	37.93	35.34	32.44	28.90	26.84	25.40	23.60	23.05
urban	19.33	29.82	27.66	23.78	19.82	17.12	14.86	14.25	14.90	17.91
current day status										
rural	23.90	29.83	28.99	28.04	26.01	23.80	22.78	21.70	20.62	20.46
urban	18.89	21.07	22.22	19.74	16.56	14.52	12.78	12.42	13.10	16.35

14. WORK-FORCE (PERCENTAGE) BY AGE-GROUP (IN YEARS) :

	5-14 (1)	15-29 (2)	30-44 (3)	45-59 (4)	60 and above (5)
usual status					
rural	9.43	36.28	32.77	17.45	4.07
urban	7.28	34.45	34.28	18.92	5.07
current day status					
rural	10.57	35.12	32.63	17.61	4.07
urban	7.75	34.35	34.20	18.62	5.08

15. WORK-FORCE (PERCENTAGE) BY EDUCATION :

	illiterate	literate upto primary	middle	secondary	graduate and above
	(1)	(2)	(3)	(4)	(5)
	usual status				
rural	89.48	8.67	1.15	0.58	0.11
urban	65.23	17.47	4.73	7.55	4.99
	current day status				
rural	88.87	8.95	1.32	0.71	0.14
urban	62.48	18.27	5.10	8.49	5.63

16. UNEMPLOYED (PERCENTAGE) BY AGE-GROUP (IN YEARS) :

	5-14	15-29	30-44	45-59	60 and above
	(1)	(2)	(3)	(4)	(5)
	usual status				
rural	8.00	57.45	24.03	9.12	1.40
urban	3.62	73.05	18.40	4.40	0.53
	current day status				
rural	8.86	43.44	28.76	15.12	3.00
urban	3.85	68.81	18.49	7.43	1.42

17. UNEMPLOYED (PERCENTAGE) BY EDUCATION :

	illiterate	literate upto primary	middle	secondary	graduate and above
	(1)	(2)	(3)	(4)	(5)
	usual status				
rural	64.52	16.71	8.76	8.46	1.55
urban	25.83	19.93	15.56	25.71	12.96
	current day status				
rural	82.59	10.49	3.04	3.18	0.70
urban	36.53	13.86	10.46	25.02	14.29

18. STATES WITH HIGHER WORK-FORCE PARTICIPATION RATES COMPARED TO ALL-INDIA :

(a) <u>usual status, rural</u> - All-India (28.82 pc.), Andhra Pradesh (45.40 pc.), Himachal Pradesh (51.90 pc.), Karnataka(37.60 pc.), Madhya Pradesh(43.37 pc.), Maharashtra(47.00 pc.), Meghalaya(62.73 pc.), Rajasthan (38.33 pc.), Tamil Nadu(39.45 pc.), Tripura(36.71 pc.), Arunachal Pradesh(63.88 pc.), Goa,Daman and Diu(40.39 pc.

(b) usual status, urban- All-India(14.03 pc.), Andhra Pradesh(20.75 pc.), Manipur(23.90 pc.), Meghalaya(19.82 pc.) Tamil Nadu(22.93 pc.) and Goa,Daman and Diu(25.76 pc.).

(c) current day status,rural- All-India(22.56 pc.), Andhra Pradesh(33.97 pc.), Himachal Pradesh(36.58 pc.),Madhya Pradesh(32.79 pc.), Maharashtra(36.02 pc.), Meghalaya (51.90 pc.), Rajasthan(35.91 pc.) and Arunachal Pradesh (56.14 pc.)

(d) current day status,urban- All-India(12.46 pc.), Andhra Pradesh(17.03 pc.), Manipur (20.16 pc.), Meghalaya (19.30 pc.), Tamil Nadu(19.91 pc.) and Goa, Daman and Diu(20.89 pc.).

19. STATES WITH HIGHER RATES OF INCIDENCE OF UNEMPLOYMENT COMPARED TO ALL-INDIA :

(a) usual status,rural - All-India(5.52 pc.), Haryana (20.79 pc.), Kerala(29.18 pc.),Punjab(14.30 pc.), West Bengal(23.86 pc.) and Pondicherry(32.34 pc.).

(b) usual status,urban - All-India(17.76 pc.),Haryana (22.34 pc.), Jammu and Kashmir(28.83 pc.),Kerala (39.47 pc.), Punjab(20.89 pc.), Tripura(36.16 pc.),West Bengal(28.39 pc.), Chandigarh(25.69 pc.),Delhi(32.08 pc.) and Pondicherry(26.21 pc.).

(c) current day status,rural - All-India(9.18 pc.), Andhra Pradesh(14.33 pc.),Karnataka(11.54 pc.), Kerala(27.41 pc.), Tamil Nadu(17.11 pc.), Delhi(26.97 pc.),Goa, Daman and Diu(14.97 pc.)and Pondicherry(23.77 pc.)

(d) current day status,urban - All-India(14.55 pc.), Jammu and Kashmir(18.31 pc.), Kerala(25.47 pc.), Tamil Nadu (18.98 pc.), Tripura(25.17 pc.) and Delhi(32.12 pc.).

20. ADJUSTED PERCENTAGE ESTIMATES OF EMPLOYED* AND UNEMPLOYED (USUAL STATUS) TAKING INTO CONSIDERATION THEIR GAINFUL ACTIVITIES IN THE SUBSIDIARY CAPACITY :

rural		urban	
employed	unemployed	employed	unemployed
(1)	(2)	(3)	(4)
38.48	0.79	17.80	2.52

21. PERCENTAGE OF EMPLOYED AND UNEMPLOYED ACCORDING TO CURRENT DAY STATUS BY SUB-ROUND :

	rural		urban	
	employed	unemployed	employed	unemployed
	(1)	(2)	(3)	(4)
July-Sept.'77	23.57	2.29	12 .06	2.17
Oct.-Dec. '77	23.10	1.98	11.76	2.11
Jan.-March'78	22.26	2.24	13.01	2.21
April-June'78	21.01	2.66	13.00	2.02
combined	22.56	2.28	12.46	2.12

22. PARTICIPATION (PERCENTAGE) BY SUBSIDIARY GAINFUL ACTIVITY (USUAL) OF WOMEN USUALLY NOT WORKING (I.E. OUT OF LABOUR FORCE) :

	self-employed in		regular employees in		casual wage labour in		without any subsidiary gainful activity
	agri-culture	non-agri-culture	agri-culture	non-agri-culture	agri-culture	non-agri-culture	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
rural	12.34	1.01	0.03	0.03	3.13	0.28	83.18
urban	2.21	1.44	0.01	0.14	0.50	0.46	95.24

23. USUALLY EMPLOYED WOMEN BY OCCUPATION :

(i) professional technical and related workers : rural-0.77, urban-9.46; (ii)administrative etc.workers : rural-0.13, urban-0.99;(iii) clerical etc. workers : rural-0.10, urban-3.96; (iv) sales workers : rural-2.10, urban-8.48; (v) service workers : rural-3.05, urban-19.25; (vi) cultivators(rural-42.08), agricultural labourers (rural-36.88), plantation etc. labourers(rural-1.07), workers in animal husbandry etc. (rural-6.47), fishermen etc.(rural-0.16) : rural-86.66, urban-25.05; rest : rural-7.19, urban-32.80.

24. OPERATION-WISE DISTRIBUTION OF WAGE/SALARY EARNERS AND CASUAL WAGE LABOURERS ACCORDING TO CURRENT DAILY STATUS (RURAL AREAS ONLY) :

ploughing-0.90, sewing-1.30, transplanting-8.62, weeding-15.54, harvesting-21.07, other manual work in agriculture-32.65, non-manual work in agriculture-0.59 [agriculture sub-total-80.67], manual work in non-agriculture-16.56 and non-manual work in non-agriculture-2.77 [non-agriculture sub-total-19.33].

25. OPERATION-WISE DISTRIBUTION OF SELF-EMPLOYED ACCORDING TO CURRENT DAY STATUS (RURAL AREAS ONLY) :

ploughing-01.43, sowing-1.36, transplanting-2.62, weeding-10.43, harvesting-13.54, other manual work in agriculture-51.84, non-manual work in agriculture-3.70 [agriculture sub-total-84.92], manual work in non-agriculture-12.15, non-manual work in non-agriculture-2.93 [non-agriculture sub-total- 15.08]

26. AVERAGE WAGE(RS.0.00) PER DAY OF CASUAL LABOUR BY TYPE OF OPERATION (RURAL AREAS ONLY) :

public works-2.72, ploughing-2.87, sowing-2.50, transplanting-2.82, weeding-2.22, harvesting-2.81, other agricultural operations(manual)-2.54, other agricultural operations (non-manual)-2.32, non-agricultural operations (manual)-2.74, non-agricultural operations(non-manual)-2.60.

27. PERCENTAGE DISTRIBUTION OF NUMBER OF DAYS WORKED DURING A WEEK :

	all the 7 days	4 days or more but less than 7 days	2 days and more but less than 4 days	less than 2 days
	(1)	(2)	(3)	(4)
rural	63.76	16.84	17.67	1.73
urban	71.14	13.44	14.23	1.19

28. PERCENTAGE AVAILABLE (USUAL STATUS) FOR ADDITIONAL WORK/ WORKS :

	self-employed in		regular employees in		casual wage labour in			total working	students	engaged in household duties
	agriculture	non-agriculture	agriculture	non-agriculture	public works	agriculture	non-agriculture			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
rural	10.32	15.48	12.54	12.27	46.48	50.58	36.67	26.58	0.91	4.96
urban	8.73	13.30	3.65	9.92	29.56	55.02	39.47	20.73	1.46	3.88

29. PERCENTAGE OF FEMALES USUALLY ENGAGED IN DOMESTIC DUTIES BY REASON FOR ATTACHMENT TO DOMESTIC DUTIES SEPARATELY FOR EACH MARITAL STATUS :

	never married			currently married		
	pressing need	non-availability of work	others	pressing need	non-availability of work	others
	(1)	(2)	(3)	(4)	(5)	(6)
rural	86.06	4.78	9.16	94.20	2.45	3.35
urban	85.94	5.20	8.86	94.58	2.38	3.04

	others			total		
	pressing need	non-availability of work	others	pressing need	non-availability of work	others
	(7)	(8)	(9)	(10)	(11)	(12)
rural	90.43	2.86	6.71	92.46	2.89	4.65
urban	91.21	2.48	6.31	93.03	2.80	4.17

30. PARTICIPATION RATES IN SPECIFIED ACTIVITIES OF FEMALES. USUALLY ENGAGED IN DOMESTIC DUTIES

	free collection etc.	kitchen gardening etc.	sewing etc.	tutoring etc.	bringing water etc.	any of the specified activities
	(1)	(2)	(3)	(4)	(5)	(6)
rural	37.09	31.55	9.38	1.19	3.37	54.16
urban	68.18	8.41	14.06	4.63	=	26.06

Annexure

1. CLASSIFICATION OF PERSONS ACCORDING TO USUAL STATUS AND CURRENT DAY STATUS APPROACHES :

(a) usual status approach : The usual activity status of a person was the one which occupied a relatively long time during a reference period of 365 days preceding the date of survey. The person was first classified under any one of the three broad activity status groups - 'working' (or employed), 'seeking/available for work' (or unemployed) and 'not available for work' (or not in labour force) depending on the relative period of time spent in the above activities. The detailed status within the broad status was decided again on the basis of 'relatively long time criterion'. There were altogether 15 detailed usual activity status categories under which the population was classified.

(b) Current day status approach : Under the current day status approach a person was assigned one or at the most two activity status on each day of a reference period of 7 days preceding the date of survey depending on whether he/she had been pursuing one or more than one activity on each day. Thus, the unit of classification was half day according to this approach. In assigning the activity status on a day, a person was considered 'working' (or employed) for the entire day if he had worked 4 hours or more on the day. But if he worked one hour or more but less than 4 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 of the day depending on whether he was seeking/available for work or not on the day. On the other hand, if a person

was not engaged in any gainful work even for one hour on the day but was seeking or available for work for four hours or more he was considered 'unemployed' for the entire day. But if he was available for work for less than four hours only he was considered 'unemployed' for half day and 'not in labour force' for the other half of the day. A person who was having neither any gainful work to do nor was available for work even for half of the day was considered 'not in labour force' for the entire day and assigned the one or two of the non-gainful activity statuses which he had during the day. The aggregate of persons classified under the different activity categories for all the seven days of the week divided by seven gave the distribution of persons (strictly person-days) by activity category on an average day over the survey period of one year.

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ROLE OF RURAL WOMEN IN THE ECONOMY OF GARHWAL REGION

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ROLE OF RURAL WOMEN IN THE ECONOMY OF GARHWAL REGION

..... Dr.(Km)ANJALI BAHUGUNA

"To be born women is to know that we must labour to be beautiful"

so says an English poet. But here the things are just opposite they are labouring to keep off starvation. They are the unsung heroines, born to die in the backyard of human civilization, carrying on the burden of humanity for a mere pittance. They work just like men-folk in the fields in the scorching sun and in the pouring rain. They do many things more which men do not do. They cook and look after the children. They look after the animals, go around to fetch grass and fodder all in order to keep the fire of the hearth glowing. They sow the seeds, transplant and harvest the crop.

The people of Garhwal are hardy and intelligent and the women-fol extremely hardworking. The elites of the region have settled in cities on the plains. In general, in the absence of resource development activity a large number of young men leave the region for good, preferring exile to a life of continued struggle against the niggardliness of nature. The villages most often are left with women, children and old men. Even to-day women of Garhwal have proved themselves pioneer in the field of ecological development too by starting the 'Chipko Movement'.

The present paper is concerned with the problem of work load of rural women in Garhwal Division. It first discusses the area and population and then tries to answer the problem in the following manner.

1. How far agricultural economy depends on the rural women?
2. How far the rural women of the region are motivated by the integrated rural development programmes of the Government of India?
3. Excessive work-load on women has been responsible for many psychological problems of the children and loss of man-power in the region.

Description of the Area :-

The Garhwal Himalaya has a total area of about 30,000 Sq.Kms. The Garhwal region incorporates the districts of Uttarkashi, Chamoli, Tehri, Pauri and Dehradun. Their total population according to 1971 Census Report was 19.68 lakhs. District wise break up of geographical area as well as population is given in Table 1.

Except for a few areas of Dehradun District, the entire region is highly rugged and characterised by slopes, peaks, valleys and snowclad mountains. The famous holy Ganga river and its tributaries have all their origins in this region. Lots of pilgrims from all over the country and the tourists

get attracted to the famous shrines of Badrinath and Kedarnath. Then there are the places like the Queen of Hills 'Mussoorie' attracting the tourists in summer with its cool and pleasant summer breeze and scenic beauty. All parts of Garhwal region are not evenly developed. Dehradun is highly developed while others are either in a state of transition of extremely backward.

Agricultural Economy and its dependence on the rural women:

Undoubtedly agriculture is the dominant sector of the economy of this region. Naturally, most of the people get themselves involved in agricultural activities (Table 2)

The total area of five districts in Garhwal Division is 30,000 Sq.Km.(or 30,09,000 Sq.hectares) out of this only 3,79,667 hectares is available for cultivation and 24,08,755 hectares is under forest or pasture. Almost 90% of the landholding in the Garhwal Hills are below one hectare. They are not only small but also fragmented and scattered lacking irrigation facilities. Since these terrace type lands have little potential for modernisation it results in less production. Naturally the people, have to be cotent with the traditional methods of agriculture.

On top of this there is acute shortage of manpower. Except in Dehradun, in all districts of Garhwal division woment outnumber men.

$F_p > M_p$

As shown in Table -3

Almost the whole of younger male population migrates to plains in search of employment. This migratory characteristic of male population results in a strain or burden on

womenfolk. Women have a more productive share in the economic activities then men.

$P_w > P_m$

If one tours the countryside in Garhwal Region, it will be evident that in most of the villages the only inhabitants are the aged men and women, young women and children with a very few able bodied men. These women manage homes as well as work as cultivators. Dehradun, which is developed, leaving aside it a higher proportion of women work as cultivators. The hillwomen carryout all agricultural operations except that the ploughing of fields which is done by men. They have also to fetch fuel and fodder and look after the animals. At home they cook food look after the children and perform every duty that is expected from a good conventional house-wife. Every women works near about 16 - 17 hours daily. The general schedule can be described as follows:-

Session	Time	Type of work
Morning	4 to 6	Collection of fodder for animals
	6 to 8	Fetching water
	8 to 11	Cooking & looking after children
	11 to 12	Animal care
Afternoon	12 to 5	Looking after fields & collecting fuel.
	5 to 6	Animal care
Evening & Night	6 to 9	Cooking food & looking after family work.

Almost this way they are busy toiling throughout the day. There should be some methodology and technique to measure the workload of women.

(a) To test that the Real Income of Women is more than the real income of Men

$Y_w > Y_m$

(b) to test the result that the Efficiency of females is greater than the Efficiency of men

$E_f > E_m$

These results, then should be associated with the planners decision making process. So that they give more importance to women's participation in the rural economy of Garhwal region. Suggesting suitable measures for the development.

Once the work load is measured and the productivity taken into account it will be easier to judge its share in the national income. Thus giving the participation of women the desired importance to further boost the economy.

Rural Women and Integrated Rural Development Programme:

The people and especially the women, living in villages are extremely simple and traditional. This isolation and their continued living in remote villages makes them feel contented of whatever they have.

Loans are available on easy terms but many of them come forward. Lack of education and rigid thinking does not

allow them to participate willingly in the development programmes.

Most of the development programmes remain almost unpractical to them. Emphasis should be given to the need oriented programmes. The women-folk which is busy doing work since morning till night, whatelse can be expected from them?

Secondly all loans, subsidies, seeds and fertilizers for various schemes are distributed against land holdings. Land holdings are in the name of household head who is away in the plains and whose authorisation is essential to receive these benefits. Ultimately, the actual cultivators the women remain devoid of these facilities since in the eyes of law they are not the real owners of the land. Hence the work of the women should be given importance especially in a region where women perform all economic and domestic activities. Developmental activities should be planned keeping their suitability for women. Trainned women extension workers can help in the transfer of modern technology to hillwomen and explain them new activities.

Excessive work load of women and the resulting consequences especially on children

'Children' the future nation builders hardly get time to be close to their mothers. Proper health care, neat and clean habits are just utopian schemes for the women.

If a mother wishes too to look after her child properly, it will not be possible because then who is there to look after all activities domestic and agricultural?

Thus these children, when they grow up they start running from homes at a very early stage. They prefer to work in the cities, in hotels as pot cleaners instead of staying in home. Hotels in adjoining or big cities usually have these tean-aged children as 'Bhullas' or 'Bearers'.

This migration further adds to loss of man power and increases the excessive workload on women.

Unless and until their work is measured in some micro economic frame work it will not be possible to bring the development planning process to these remote areas.

TABLE - 1

Land use statistics of Garhwal Division

Sl.No.	Name of District	Total area (in Sq.Kms.)	Area under cultivation (in hectares)	Area Under Forest (in hectares)	Area Under Pasture. (in hectares)
1.	2.	3.	4	5	6.
1.	UttarKashi	8,016	1,10,208	7,04,476	1,65,858
2.	Tehri	4,421	80,000	2,69,545	16,505
3.	Garhwal	5,440	1,65,759	4,60,820	47,262
4.	Chamoli	9,125	4,800	5,29,283	8,648
5.	DehraDun	3,088	18,900	1,67,378	39,000
Total		30,090	3,79,667	21,31,502	2,72,253

(Source : Census-1971)

TABLE - 2

Number of persons engaged in agricultural activities in Garhwal Division.

Sl.No.	Name ofDistrict	Total Working Population	Cultivators	Agricultural Labourers	Total of 4 & 5	%ofTot Working populati
1.	2.	3.	4.	5.	6.	7.
1.	UttarKashi	93,921	80,682	939	81,621	86.9
2.	Tehri	2,04,581	1,86,083	1,127	1,87,210	91.6
3.	Garhwal	2,51,093	1,95,878	3,265	1,99,143	79.3
4.	Chamoli	1,69,747	1,46,863	741	1,47,604	86.3
5.	DehraDun	2,01,050	57,066	16,460	73,526	36.5
	TOTAL	9,20,392	6,66,572	22,532	6,89,104	74.8

T A B L E - 1

Land use statistics of Garhwal Division

Sl.No.	Name of District	Total area (in Sq.Kms.)	Area under cultivation	AreaUnder Forest	AreaUnder Pasture.
1.	2.	3.	(in hectares) 4	5	6.
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5.	DehraDun	3,088	18,900	1,67,378	39,000
Total		30,090	3,79,667	21,31,502	2,72,253

(Source : Census-1971)

Table - 3

Male and Female Population working as Cultivators in Garhwal Division

Sl.No.	District	Male Cultivators	Female Cultivators	Total
1	2	3	4	5
1	Uttarkashi	38,605	42,077	80,682
2	Tehri	77,638	1,08,445	1,86,083
3	Garhwal	72,559	1,23,319	1,95,878
4	Chamoli	57,541	89,322	1,46,863
5	Dehradun	46,989	10,077	57,066
	TOTAL	2,93,332	3,73,240	6,66,572

SOURCE : Census 1971.