MEASURING INTRA-HOUSEHOLD RESOURCE ALLOCATIONS : SOME METHODOLOGICAL ISSUES

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PREFACE

Much of the statistical information that is collected by official agencies take the household as the unit of analysis. The implicit premise that underlies the legitimacy of such a procedure is the presumption that maximisation of the household utility function is tantamount to maximizing individual utilities within the household. As evidence from within the household suggests, this need not be a correct assumption to make. Households in the Indian society are strongly hierarchical and distribution of resources within the household is generally far from egalitarian. If one is interested in the issue of inequalities that are determined by factors such as gender and age, there is an innate necessity to go beyond the confines of the household and look at individuals within.

Gender discrimination has been a focal point of concern in much of ISST's work in the past. In the recent past, for a research study sponsored by UN-ESCAP, the research team in ISST had been involved in studying intra-household disparities along gender lines in poverty households. One of the major stumbling blocks in the collection and processing of intra-household disparities in use of and access to resources, are difficulties involved in assessing the objective state of affairs, i.e., in developing proper methodologies for accurate measurements. This working paper, prepared by two of the researchers involved in the above-mentioned project is concerned with a review of literature from the point of view of methodologies adopted in this area. The paper was written after the project was completed, as an outcome of ISST's continuing interest in the whole range of issues involving intra-household distribution of resources.

An earlier version of this paper was presented in the VIIIth National Conference of Women's Studies held at Pune in June 1998. We hope that the material and analysis contained in the paper will be useful to researchers working in this area.

July 1998

Swapna Mukhopadhyay
Director

ABSTRACT

There is enough empirical evidence to show that most of the time, resource allocation amongst family/household members is more favourable to men as compared to women. In a country like ours, in most of the households, essential resources are in short supply and one person's gain always leads to another's loss causing intra-household inequalities. Because of the prevailing values and mores, it is usually the women who are losers in this bargain.

In many micro-level studies extra care is taken to measure intra-household inequalities and gender gaps more accurately. However, since the sample size is small, generalisations are not possible but the information provided by these studies helps in understanding intra-household relationships and their influence on gender related issues. Some of the major issues which are pertinent for intra-household analysis are : Defining the basic unit of analysis: measurement of resource flow amongst and within households; measurement of time and task allocation; measurement of individual access to household resources; measurement of decision making power/responsibility.

In this paper, an attempt is made to identify different tools and survey techniques for measuring indicators related to household resources and their allocation among household members. After reviewing various methods employed by different studies, the paper concludes with suggestions for improving survey techniques and methods that are being currently used for selected indicators such as nutritional intake, health care and education.

MEASURING INTRA-HOUSEHOLD RESOURCE ALLOCATIONS : SOME METHODOLOGICAL ISSUES

D. V. Rukmini and Rina Bhattacharya[*]

Most development policies focus on the well-being of individuals but the welfare of an individual depends mostly on complex interactions within the individual's family or household. The process by which time, money and other resources are allocated among individuals within the household is referred to as intra-household resource allocation. Research in this area indicates that a more complete understanding of intra-household behaviour can lead to formulation of better developmental policies. For this purpose, it is imperative to capture the process of intra-household resource allocation using cost effective and feasible survey techniques.

I. MEASUREMENT OF INTRA-HOUSEHOLD DIFFERENCES IN ACCESS TO RESOURCES

It is a well known fact that household is a natural socio-economic unit which caters to the interests of different household members. Generally, well-being or welfare of the household as a whole takes priority over the well - being (welfare) of the individual members of the household. In a poor country like ours, in most of the households. essential resources are in short supply and one person's gain always leads to another's loss thus leading to inequitable distribution among household members. Even where the household in question is affluent enough to provide essential resources to fulfil the basic needs of all household members there is the question of other strategic needs like recreation during leisure time or even leisure itself. Most of the time the distribution of resources is unfavourable to women as compared to men on account of the socio-cultural values and mores, which affect the intra-household distributional patterns.

Households can be classified into two major categories namely, nuclear families and joint (extended) families/households. The distributional patterns within the household depends not only on the availability of the resources but also on how the household perceives it. This is what determines the distribution of various resources in relation to the socio-economic and demographic status of the individual members within the household.

The household/family may be conceptualised as a complex matrix of relationships in which there is on going (often implicit) negotiation, subject to the constraints set by gender, age, type of relationship (kinship association) and what could be termed as undisputed tradition. The nature of these intra-household interactions contain elements of both co-operation and conflict, (Sen, 1990). However, household members' bargaining power would depend not only on his/her fall-back position but also on what Sen terms as perceived interest response and perceived contribution response which put females in a relatively disadvantageous position.

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Further, access to resources depends on the legitimised decision making power of the individuals within the households. Very often than not, so called 'head of the household' as perceived by the family is a male member irrespective of his age or capabilities in terms of income earning capacity or physical ability. This has lead to a situation where all resources including that of Government for development are directed towards male heads of households with the assumption that the resources are distributed among the household members equitably, which is far from reality. Empirical evidence shows considerable amount of intra-household inequalities not only in sharing but also in getting access to essential resources.

Given this background it is very essential to empericise the inequalities or differences without introducing measurement biases and/or errors. For this purpose, some of the basic needs of households/members in general and poor households/members in particular are nutrition, education and health care.

In this context it is essential to improve the existing methods or evolve wherever necessary, new methods to get reasonable estimates of the indicators to analyse the various aspects of intra-household inequalities.

In depth micro-level studies have shown that the perceived values of the work done or income accruing to the individual member or even time spent by any person differs from one individual to another. Perceptions regarding self as well as others vary between different household members depending on their socio cultural and/or economic status of the individual (ISST, 1996). This implies that a proper insight into intra-household dynamics is very essential to evolve targeted development programmes.

In this paper an attempt is made to spell out the methodological issues involved in the study of intra-household dynamics. This is followed by a critical analysis of the various methods adopted by different studies relating to human resource development. Finally, based on the review, some suggestions have been made for improving the measurements that are currently being used for selected indicators.

Issues and Methods in the Context of Intra-Household Analysis

Some of the major issues which are pertinent for intra-household analysis are : Defining the basic unit of analysis ; measurement of resource flow amongst and within households: measurement of time and task allocation ; measurement of individual access to household resources ; measurement of decision making power/responsibility.

Unit of Analysis

There are two major sources of data which collect macro-level data by gender. These are the Census of India and the National Sample Survey Organisation (NSSO).

All India Census is conducted once in ten years and the latest census was conducted in 1991. Data is collected at two levels relating primarily to individuals and then to the households to which these individuals belong.

In 1981 and 1991 an attempt was made through the census to collect information at the household level but due to some practical difficulties, individual level information could not be related to the household characteristics. Hence census data cannot be used for intra-household analysis. For example, one cannot determine what is the burden or demographic dependency ratio in male-headed households as compared to female-headed households.

The National Sample Survey Organisation on the other hand, collects data at the household level. Data relating to individual members are collected from the head of the household or the main informant. NSSO defines household as a group of persons normally living together and taking food from a common kitchen. The word "normally" means that temporary visitors are excluded but temporary stay-away are included. Thus a son or a daughter residing in a hostel is excluded from the household of his/her parents, but a resident employee or resident domestic servant or paying guest (but not just a tenant in a house) is included in the employer/host's household.

Anybody working on sample surveys is aware that a definition of this nature is in order for one point measurement. Tracer surveys or panel studies are difficult because the structure and contribution of households keeps changing due to splitting of households into splinter groups, formation of new households, migration etc. This is more common in drought prone areas where household migrate or move from one place to another seasonally.

Further in some countries it is difficult to define a household since its composition and structure is highly variable over time. In a study of food consumption in Zambia, household structure was charted anew in each monthly round of data collection because variations in composition were very great (Kumar, 1982).

Measurement of Resource Flows Amongst and Within Households

Income (cash and kind) and expenditure surveys collect information on total income and total expenditure/consumption of the household from the designated head of the household. NSSO collects information on total expenditure/consumption and not on total income.

For analysing intra-household dimensions, income accruing to the individual household members and the actual consumption or expenditure of different individuals within the household is needed. This type of data is not easy to get since most of the family members are unpaid family workers specially in a rural setting.

As it is difficult to measure individual's income within a household, one tends to think of measuring the time use pattern and task allocations to study the intra-household

3

differences. The time spent by the individual members on the various tasks is used as surrogate for allocating the income generated jointly by the group of people in the household. However, when it comes to the question of measuring the consumption/expenditure of individual household members this method is not applicable.

Measurement of Time Spent and Task Allocation

As stated earlier, based on the experience of data collection during a micro level study conducted by ISST to obtain information at the individual level within a household, it was found that measurement of time spent and task allocation is not very simple through the interview method. For any kind of data collection one has to take recourse to either recall method or direct observation method. Both are time consuming and expensive. In addition, in the direct observation method the observer (data collector) has to intrude into the privacy of the household and one can not caputure the seasonality unless repeated observations are made.

The recall methods also have serious limitations on account of memory lapses when the period of recall is long. This method also does not capture seasonality if the period of recall is very short unless one repeats the survey at different points of time to capture the variations.

Over and above , the perceptions of the respondents play a very major role in information gathering. In this context, it may be worthwhile comparing recall method with direct observation method. Studies which have compared the two methods have found substantial differences between the two.

In the Philippines, King-Quizon (1978) found that children's market work time was three times as great when measured by direct observation than by recall. Relying on recall data to measure time use raises several problems. First of all, people simply may not know how much time they spend at a given task. Furthermore, people may not define their tasks in the same way as the researchers. Some activities done by a group may simply not be recognised as work by another. For instance, the women lace makers in Narsapur, India, spend six to eight hours a day at the task, yet their husbands report this as leisure time because it is not perceived as work (Mies, 1982).

Time use can be directly observed by following a small sample of individuals continuously during a day or a sample of days; by observing a random sample of individuals during randomly selected 15 minute periods (Johnson, 1975); or by participant observation over same period of time. Multiple activities can be recorded by using these methods. However, these random moments do not provide a sense of organisation and sequencing of activities, which may be important factors in how time is used and constrained.

4

Individual Access to Resources

Measuring individual access to household resources, including productive assets, poses a different set of problems. Goods such as food may be distributed within the household according to accepted cultural patterns and it is most likely that these cultural patterns are related to the perceived contribution of the individual members. Information gathered on household activities basically depends on the 'perceived' rather than the reality, (Rogers, 1983).

However, information on certain other human capital investments like money expenditure on education or health care can be measured at the individual level. Even the level of educational attainment of individual members of the household can be obtained if due care is taken while collecting the information.

Nutritional status of individual members using indicators which involve direct measurements like height or weight/age can be obtained in a relatively easy way as compared to obtaining information on dietary intake of individual members.

Even though, height and weight are relatively easy to measure, while taking measurement, care must be taken to use proper instruments otherwise errors may be too large as compared to the differences one is trying to measure. Another aspect which is important while using such indicators is that appropriate norms have to be used for standardising them.

Apart from it, these indicators are only indicative of the final effect of nutritional intake based on the assimilation power of the individual household members on account of ill health or morbidity condition and not indicative of their actual food intake.

However, allocation of food between household members is normally done using observation method and hence the limitations spelt out earlier are applicable even in this case.

Measurement of Decision Making Power and Responsibility

Both decision-making power as well as the responsibility of undertaking different tasks in a household have a strong bearing on the socio-economic and cultural background of the household. A study was conducted by ISST to analyse whether the economic contribution plays a relatively better role or the gender to determine the headship of an individual (a proxy for decision-making power). Firstly, it is difficult to determine the economic contribution of the females and children in home-production. Further, it is very difficult to make the respondent understand what are economic activities and to elicit information on the time spent on this activities through an interview method. It was also found that different individuals reported income or time spent by self and others differently depending on their own perception. Self reported information (elicited in the absence of other members) perhaps could be taken as that which is closer to reality for analytical purposes (ISST, 1996).

As stated earlier measurement of individual access to household resources like nutrition, health care and education are very important as they are the basic needs of households/members and more so in the case of poor households.

Given this, some of the studies which were under taken by different researchers/organisations along with methods used in measuring the individual access have been reviewed in the following section.

II. REVIEW OF STUDIES ON ACCESS TO HOUSEHOLD RESOURCES : NUTRITION, HEALTH CARE AND EDUCATION

Gender Differences in Nutrition

Gender disparities in nutrition are evident from infancy to adulthood. In fact, gender has been the most statistically significant determinant of malnutrition among children (Chatterjee, 1989) and malnutrition is a frequent direct underlying cause of death among girls below age five. Adult women consume far fewer calories than men, approximately 1000 fewer calories per day according to one estimate from Punjab (Herowitz and Kishwar, 1991). Additionally, studies on comparison of household dietary intake in different parts of the country show that nutritional equity between males and females is lower in northern than southern states of the country (Agarwal and Agarwal, 1987; World Bank, 1991; Basu 1992).

Two major consequences of nutritional deprivation among women are failure to achieve full growth potential and wide spread anaemia. Anthropometric data suggest that from an early age, girls have poorer growth levels than boys (Miller, 1981; Sen and Sengupta 1985; Srikantia 1989). At later ages an estimated 47 percent of 15 year old girls and 12-23 percent of 20-24 year old in India have body weights less than 38 kg while 39 percent and 15-29 percent respectively have height less than 145 cm (Jejeebhoy, 1994).

Malnutrition studies generally include three indicators namely, weight for age, height for age and weight for height to indicate malnutrition status. For intra-household analysis, information of height, weight and age of each individual member including children and women is required. The problems that are faced begin right at the information level such as accurate measurement of height and weight of babies and toddlers, acquiring proper information on age of the individuals. Further, suitable standards by age and sex are required for getting the indicators on stunting and wasting of individuals based on height for age and weight for age measurements. First two problems can be overcome by suitable precautions, using proper equipment and method of measurement. However, one has to resort to US standard or Indian standard which may not represent the population under study as data on this is inadequate.

Sen and Sengupta (1985), used weight for age method to study malnutrition among children from two villages of West Bengal. A total of 236 children below 5 years of age

were selected as sample from Kuchli and Sahajapur villages. Both the villages are special in their own way. There was an active land reform programme around Kuchli while Sahajapur had a programme of direct nutritional intervention in the form of providing lunch the for tribal children. For classification of children's growth, Standard Weight Curves from birth to five years of age were used in the study. Growth of the children was categorised into four categories (using weight curve I, II, III, IV). In these standard curve. curve I is described as the weight of the average well-fed healthy child. Those children whose weight fell below curve I and between I & II were categorised as slightly undernourished, those between curve II & III were moderately undernourished; between III & IV were the severely undernourished ones; and below IV were disastrously undernourished.

The observed result indicated a remarkably high incidence of undernourishment even of the severe and disastrous types and systematic sex bias reflecting a higher deprivation of girls vis-a-vis boys. The sex bias is reflected both in the greater prevalence of undernourishment of various degrees among girls than boys and in the lower growth dynamics of girls vis-a-vis boys. The economic benefits accruing to the children of Kuchli village through land reforms seem to have primarily benefited boys than girls. The differences observed in the two villages can be attributed to the type of programme intervention. Shahjapur had a targeted intervention which might have resulted in reducing gender gaps where as Kuchli had just a nutrition programme.

Haddad and Hoddinott used 1986-87 round of Cote-de-Ivore LSS(CILSS)[*] to estimate the determinants of child anthropometric status. It was found that increase in the proportion of cash income accruing to women increases boy's height-for-age relative to girls and this is statistically significant.

The NNMB[**] survey (1991) provides gender disaggregated anthropometric data on the nutritional status of 1-5 years old children and then classifies them into different categories as per the reference standard used by the US National Centre for Health Statistics. According to this, on an average 5% of these children were classified as nutritionally normal, 34% were mildly malnourished, 52% moderately malnourished and 9% severely malnourished. However, applying the Indian standard (based on well-to-do children from Hyderabad) to the same data, brought out that 16% of 1-5 years were normal, 48% were mildly malnourished, 32% moderately malnourished and 4% severely malnourished.

A collation by Harriss (1986) of 24 household dietary intake surveys in the subcontinent documented differentials between males and females by regions and season in addition to age and socio-economic status. Nutritional 'equity' between genders appears to improve from north to south. While in the north (exemplified by Rajasthan) all children under 12 and adult women were deprived of their fair nutritional 'shares' relative to adult males as

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[*] Living Standard Survey
[**] National Nutrition Monitoring Bureau

well as to the applicable RDAs[*], the gender differential disappeared among adults in the western states of Gujarat (except for lactating women) and Maharashtra, and the southern states of Andhra Pradesh and Tamil Nadu. However, even in the latter areas, pre-school girls tended to be worse off than boys, and some gender differentials occurred seasonally. In most instances, adolescent girls appeared to be as well off as, or sometimes even better off than, their male counterparts. In the east, the situation was similar to that in Rajasthan, but the nutritional deprivation of women appeared to be economically rather than culturally mediated as 'work' played a significant role in female undernutrition. Females were especially deprived among poor families in the 'hard work' season. In contrast to these micro studies, the NNMB survey data fail to show that females are any worse off than males in terms of calorie intake in the aggregate, except for lactating women and 13-16 years old girls, (Chaterjee, 1996). However, such analysis is not possible with the 1991 NNMB data since it dose not present information on nutirient consumption by individuals disaggregated by age and gender.

In an attempt to study the gender effects in Indian consumption pattern, Subramanian and Deaton (1991) analysed a range of household consumption patterns using the household expenditure data from the 38th round (1983) of the National Sample Survey (NSS) from the Maharashtra state sample. The data provide information only on expenditure and not on household income as such. Hence it was not possible to introduce budget constraint into the econometric model. The effect of gender and age has been analysed by studying as to what happens to the consumption of certain specific items keeping the total expenditure of the household as constant. The basic foodstuffs such as rice, wheat, other cereals, pulses, milk, meat, fruit, vegetables, and sugar were selected to analyse the gender bias (in adults as well as children) based on a simple regression. This exercise revealed gender biases in consumption of these specific items. However, through this model one can only analyse gender biases in the consumption of certain specific items but not the over all discrimination.

Further, these authors argue that in some families though girl children are deprived access to higher education, the household starts saving for getting them married away at a later date. This aspect does not get reflected in the econometric analysis due to lack of such data, since NSSO provides data only on expenditure and not on income/saving. As far as foodstuffs like (non-alcoholic) beverages and processed food are concerned, there is an indication for higher male consumption. For two key goods, milk and medical expenses, it was expected to find pro-male effects consistent with the literature, on excess mortality among young girls. Instead, results indicated no bias or pro-female bias, at least in the rural areas. Among urban households, there is some suggestion of pro-male effects in medical and educational expenses. In the rural areas, there is some evidence that is consistent with an education bias operating against girls in the 10-14 years age group. The overall results suggest that gender plays an important role in the consumption pattern but to discern a pattern favouring particular gender is difficult to arrive at.

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[*] Recommended Daily Allowance

In another study Deaton (1989) using household budget survey reported that there is no evidence of discrimination between boys and girls in Cote d' Ivaire and a small but insignificant bias in favour of boys in Thailand in terms of household expenditure. However, household budget surveys record consumption not of individuals but of households.

It was argued that if the reduction in adult-goods expenditure is large for the household with the male child on a systematic basis then it might be plausible that households are diverting resources to male children than to female children.

Gender Differences in Morbidity and Access to Health Care

The gender differences in morbidity within the household can be studied with the help of macro level data. For this purpose it is essential to examine how the data pertaining to morbidity of individual members is obtained by the data collecting systems and whether the concepts and definitions used for measuring morbidity are suitable to capture the intra-household differences fully. Further, for intra-household analysis in the Indian context, socio-cultural taboos are attached to responses of the interview. A gender neutral definition without giving due importance to the reproductive health is likely to give an under-estimate of the incidence of morbidity for adult females. Another aspect which is of importance is that both the incidence as well as intensity of morbidity conditions are highly based on individuals' perception. Self-perception in all likelihood would be different from proxy respondent's perception. In order to overcome this difficulty, different data collecting agencies such as NSSO, NCAER use 'salience criteria' which are suposed to be more objective. However, even this type of measurement has its own drawbacks as discussed later.

The National Sample Survey Organisation (NSSO) as a data collecting agency was set up by the Government of India in 1950. In order to identify better data collection methods and instruments relating to the type of respondent, recall period, definitions and concepts and information on utilisation of health services, research was carried out during October 1953 to March 1954.

Gumber and Berman (1995) reported that research studies conducted by NSSO during 1960s found out that proxy respondents tend to report fewer illnesses for others than for themselves. For children usually mothers are considered to be the best proxy respondents. In contrast to this, some of the micro level studies also reveal gender-bias in favour of male children in illness reporting and treatment sought (Khan et al., 1989). Further, if the investigators restrict themselves to self-reporting, the cases of missing information increase because of the time and resource constraint, causing a non-reporting bias since not all members of the household particularly adult males are available at the time of the interview. Therefore, NSSO in the later rounds of surveys resorted to proxy respondents resulting in some bias in the data obtained.

9

Two major surveys were launched by the NSSO during 1980-81 (35th round[*]) and 1986-87 (42nd round) with the objectives of making an assessment of the benefits received from public investment in health services, understanding the broader health needs of various sections of the society including women. Both the surveys gathered information on: (a) the extent of coverage under public health programs (vaccination or immunisation), (b) provision of health care and nutritional supplement for mothers and children, and (c) the utilisation of medical services, (including hospitals), for the treatment of illness and injury and the costs incurred for that purpose. The 1986-87 survey was the first of its kind which presented data on the utilisation of health services in India on both inpatient and outpatient care by gender. Individual level data on untreated illness, hospitalisation, source of treatment, total private expenditure on treatment etc. are available in the reports of the 42nd round. However, gender disaggregated information is available only on the selected indicators (by some selected socio-economic characteristics like fractile groups and highest education level attained by the adult members in the household). These are morbidity rates[**] and percentage of people with ailments treated to total people with ailments (NSSO, 1992).

By and large in developing countries morbidity is measured through self-perceived approach which is based on pains and sufferings reported by the individuals. The information is obtained by using household interview method without any emphasis on reliability and validation checks on illness reporting. There are considerable variations in applying several procedures for improving self-perceived morbidity (Gumber and Berman, 1995). While analysing data from rural Bangladesh on morbidity of children as reported by their mothers, Gumber and Chen, (1996) noticed some contradictions. While on the one hand there was higher mortality among female children, on the other, they were suffering fewer number of illnesses (even adjusting for mortality differential). The reason for such contradiction perhaps lies in the continuing 'son preference culture' and thus mothers were discriminating in reporting illness between sons and daughters. Other studies also observed similar gender bias in favour of male child in reporting of illness and treatment sought for children (Chen, Haq and D'souza, 1981).

In India, a few health surveys were conducted in the resent past by different organisations and individuals such as NSSO (1986-87); Duggal & Amin (1989); Yesudian (1990); Kannan et al. (1991); NCAER (1991 and 1992); George et al. (1994); Kumtaker et. al. (1993). In all these surveys, information on morbidity of individuals is reported by head of the household or the main respondent unlike the usual morbidity studies based on self perceived approach. Moreover, probing questions are were asked to the proxy respondent for all other members causing reporting biases on account of perception.

The survey conducted in 1986-87 by NSSO used the 'salience criteria' method for studying morbidity by recording whether the person took medicine or sought medical advice combined with various probes based on a tracer list. Probing questions that were

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[*] Details on 35th round data are not available in published form/not even in a user friendly form

[**] Morbidity rate is the number of persons who had fallen ill on average in a period of 30 days during 1986-87 per 1000 population

10
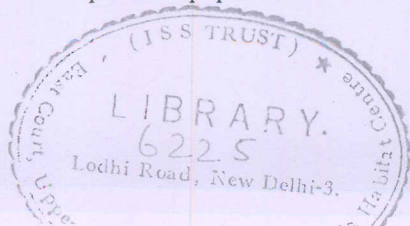
asked to the head of the household or main respondent for all other members of the household were, a) during the reference period whether they have suffered any problems relating to skin, throat, ear, nose etc., b) during the reference period whether they have taken any medical treatment or medicine. In this context, it is important to know that illnesses not falling under salience criteria would not have been captured. For instance, very often women suffering from anaemia neither seek medical advice nor take medicine.

Review of various morbidity studies reveals how the results obtained in different surveys can differ drastically depending on how the information is elicited. In the a survey conducted in Haryana state, the higher morbidity among females over males was due to higher reporting of minor illnesses (ache and pains) as well as gynaecological problems (irregular menses, white discharge, etc.) among women in the 15-29 age group. Whereas in the NCAER (1991) survey, males reported more illnesses than females because information was sought for only treated illnesses and in a patriarchal society males are cared for more than females due to various economic and social reasons.

While conducting the survey in Kerala, the salience criteria were whether, the illness imposed restriction of normal activity and/or whether, a physician was consulted (Kannan et. al. 1991). In surveys reported by Amin and Duggal, 1989 NCAER(1991) and NCAER (1992) the respondents were asked to recall an event of ill health along with the symptoms (without using any symptom list) and action taken for its treatment. While only treated illnesses (including self medication) thus incurring some expenditure were considered in the NCAER (1991) survey, in the subsequent survey of NCAER in 1992 these shortcomings were improved upon by enlisting symptoms for which treatment was not sought.

As far as the recall period is concerned, surveys under review adopted varying recall period for the general morbidity data. However, NSSO employed a recall period of one month.

In order to capture seasonal variation in the prevalence of diseases, in most of these surveys repeat visits were made either by dividing the length of recall period equated to 365 days or by covering different seasons, such as pre-monsoon, monsoon and post-monsoon. In the case of NSS (1986-87) instead of repeat visits, the entire sample was spread out during the whole year. One-fourth of sample villages / urban blocks in each agro-climatic region of the state were surveyed quarterly, i.e., during July - September, October - December, January - March, and April - June.

A critical analysis of the methodology used in these surveys suggests that there is a need for some modifications to improve upon the quality of data on morbidity and morbidity related factors at individual level with special reference to women.

Surveys on utilisation of health care services have used varied length of recall period, however, studies show that the recall period of two weeks for short-term or acute illness reporting is the most appropriate, while for long-term or chronic illness it could be three or more months but preferably less than six months.

As mentioned earlier, methods for measurement of the responses to illness have been highly varying and are often inadequate. No national survey has measured the role of nonqualified private practitioners, although smaller studies suggest that they account for the majority of ambulatory treatment of illness (ISST 1994). It is unclear as to what extent national surveys adequately capture variations across the regions and between male and female in types of health care providers.

Gender Differences in Access to Education

Gender differences in education can be measured through variables like literacy rates, school attendance, level at which education is discontinued, participation in education, educational attainment etc. The data on reasons for not going to school can be used as proxy to capture gender differences in access to education. Most of these variables can be studied from macro level data.

The gender disaggregated data on expenditure and education can also be used to study differences in access to education. However, macro level data do not provide such information hence there is a need for micro level study. The findings of the micro level studies may be tested against large scale surveys to see to whether results can be generalised.

In a recent study, Unni (1995) has listed some of the determinants of schooling among boys and girls in rural areas of Mehasana district in Gujrat. GIDR[*] conducted a resurvey of 6 villages of Mehasana selected from an earlier survey conducted in 1988-89. In the resurvey, all the households surveyed earlier were contacted and information on educational variables collected.

The gender differential in school going pattern by age-groups is quite striking. When all villages under study are taken together, the overall proportion of boys in the 6-14 year age group attending school is much higher than that of girls. The proportion of school going boys increased steadily with age while that of girls increased upto the 10-11 year age-group and then declined. There appears to be a withdrawal of girl children from school on reaching puberty.

Another striking difference by gender is that while 10 percent of girl children reported their main activity as engaged in household work, hardly any boys reported so. These girls are mainly in the 12-14 year age-group. It was also found that the work participation of children, particularly girls was much higher among agricultural households as compared to non-agricultural households. This included girls who undertake household work and take care of sibling etc.

Some of the observations that came up in this study can be explored at macro level using NSS (42nd round) data where all the relevant variables at the individual level are

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[*] Gujrat Institute of Development Research

available. It may be noted the that quality of information at the micro level study is likely to be better as compared to that obtained in a large scale survey even though the latter which is much more representative of the area under study.

III. SOME SUGGESTIONS FOR IMPROVEMENT IN THE METHODS OF MEASUREMENT AND DATA COLLECTION

Definitions and concepts used in data collection should not be gender blind. While taking measurements at the individual level whether it be on dietary intake, time use pattern or any such information, proper care needs to be taken not to leave out any of the members even by default or otherwise, especially women and children. If all the members can not be interviewed on account of cost constraint, choice of interviewees should be random and not purposive so that the information collected is representative of the sample household. Even in the observation method this precaution should be taken.

A strict intra-household analysis is not possible from 1981 and 1991 census data. Even though census data provides individual level information on some variables by age and sex, the estimates are based on a sample of individuals slips. Because of this it is difficult to relate the individual with the household to which the individual belongs.

For 2001 census, it was suggested in the Data Users Conference that the individual slips should form part of the household data to which the individuals belong and even while giving sample estimates, a sample of households should be taken instead of a sample of individuals. In other words individuals slips should not be sampled but households. This suggestion is being considered.

Intra-household analysis can be done using NSSO data as individual level data for each sample household is available. However, this is likely to have a high response bias as the data is based on the information given by the head of the household or the main proxy respondent for all the individual household members. Further, the sample of households selected from each village is small. Hence, the intra-household variations that are captured, though theoretically representative, present only the average picture of the area under study. It is suggested that a larger sample of households at the village level should be taken to capture the socio-cultural and demographic variables. To keep the total sample size under control villages may be suitably stratified and lesser number of villages selected.

Data collection procedures both in Census and NSSO involve large operations resulting in higher nonsampling errors which are difficult to control. Hence, the micro level studies have to be used where ever it is not possible to get a proper insight into the issue under consideration.

From the review of the nutritional studies it is clear that anthropometric measurements throw some light for assessing the nutritional status of different population groups vis-a-vis a standard population group. The standard norms normally used are different for

13

different age, sex groups and hence, comparison of males versus females by age within households is possible but, these indicators reflect only the overall nutritional status as indicated by the physical measurement and not on the actual food intake. For example, two items of food having the same quantity of nutrient may not bring out any difference in the anthropometric measurements but would have an impact at the individual level in terms of taste or the quality of the food intake. Only dietary intake surveys can capture intra-household differences in actual food intake. As these studies are very expensive and time consuming it is suggested that at least some clusters of villages which are likely to be representative of the area of study should be surveyed in order to get a deeper insight into this aspect.

Morbidity measurements are presently obtained by eliciting information from head of the household or proxy respondent. This should be avoided and one should approach each member of the household. As far as possible, presence of other household members should be avoided. This was tried out in Rural Economic and Demographic Survey conducted by National Council of Applied Economic Research during 1982-83. Female members and children should not be left out even by default since the adjustments for non-response introduce estimation biases wherever non-response of individuals is associated with socio-cultural restrictions. Further, as children can not report for themselves mothers are the best proxies.

NSSO has presented estimates of total health care expenditure as obtained from 42nd round data. It is suggested that some tabulation relating to health expenditure incurred by individuals should also made available in a user friendly form.

Individual level expenditure data on education should also be collected and presented in the NSSO reports which would bring out intra-household differences in access not only to education but also its quality.

Last but not least, in-depth studies are required for capturing intra-household dynamics of access to resources. In large scale studies it is difficult to get into too much of a depth. Hence, large scale survey results should be supplemented by in-depth micro studies to understand the process better. However, the results obtained through the micro studies can not be generalised and hence have to be tested only by using large scale data which is representative of the population under study.

REFERENCES

Agarwal, D. K. and K. N. Agarwal, 1987. 'Early Childhood Morbidity in Bihar and Uttar Pradesh', *Indian Pediatrices* 24, No. 8 (August): 627-32.

Basu, A., 1992. *Culture, Status of Women and Development Behaviour,* Oxford : Clarendon Press.

Chatterjee, Meera, 1989. Socio-economic and Socio-cultural Influences on Women's Nutritional Status and Roles, in C. Gopalan and Suminder Kaur (eds.), *Women and Nutrition in India,* New Delhi : Nutrition Foundation of India.

Chen, Lincoln C., Emdadul Huq and Stan D'Souza, 1981. 'Sex Bias in the Family Allocation of Food and Health Care in Rural Bangladesh', *Population and Development Review* 7: 55-70.

Deaton, A. S., 1989. 'Looking for Boy-Girl Discrimination in Household Expenditure data', *World Bank Economic Review*, 3, 1-15.

Duggal, Ravi and S. Amin, 1989. *Cost of Health Care: A Household Survey in an Indian District* : Bombay, The Foundation for Research in Community Health.

George, A., I. Shah and S. Nandraj, 1994. *A Study of Household Health Expenditure in Madhya Pradesh,* Bombay : The Foundation for Research in Community Health.

Gumber, A and P. Berman, 1995. *Measurement and Pattern of Morbidity and Utilization of Health Services : A Review of Recent Health Interview Survey in India.* Working Paper No. 65, Ahmedabad : GIDR

Gumber, A and L. C. Chen, 1996. *Measurement Seasonality and Clustering of Morbidity. Some Correlates from a Longitudinal Study in Rural Bangladesh.* Working Paper No. 77, Ahmedabad : Gujarat Institute of Development Research.

Harriss, Barbara, 1986. *Child Nutrition and Poverty in South India,* New Delhi : Concept Publishing Company.

Horowitz, Berny and Madhu Kishwar, 1991. 'Women's Lives', in Madhu Kishwar and Ruth Vanita (eds.), *In Search of Answers : Indian Women's Voices* from *MANUSHI*, New Delhi : Horizon India Books.

ISST, 1994. *Evolving a Women-Sensitive Population Policy & Programme* : Project Report, New Delhi : ISST.

------------, 1996. *Women in Extreme Poverty in India : With Special Reference to Female Headed Households, Widows, Separated and Deserted Women* : Project Report, New Delhi : ISST.

Jejeebhoy, Shireen, 1994. 'Gender Inequalities, Women's Reproductive Health and Demographic Behaviour in India', Unpublished.

Johnson, A., 1995. 'The Allocation in a Machigunenga Community', *Ethnology*, 14(2) : 301-310.

Kannan, K.P., K.R. Thankappan, V. Raman Kutty and K.P. Aravindan, 1991. *Health and Development in Rural Kerala : A Study of the Linkages between Socio-economic Status and Health Status*, Trivandrum : Kerala Sastra Sahitya Praishad.

Khan, M. E., R. Anker, S. K. Ghosh Dastidar and S. Bairathi, 1989. 'Inequalities between Men and Women in Nutrition and Family Welfare Services : An In-depth Enquiry in an Indian Village' in J. C. Caldwell and G. Santow (eds.), *Selected Reading in the Cultural, Social and Behavioural Determinats of Health,* Canberra : Australian National University.

King Quizon, E., 1978. 'Times Allocation and Home Production in Rural Philippine Households', *Philippine Economic Journal.* 17(1-2) : 185-202.

Kumar, S., 1982. In L. Rogers and Nina P Schlossman (eds.) *Intra-Household Resource Allocation: Issues and Methods for Development Policy and Planning,* United Nations University Press, 1993, P - 11-12.

Kumtakar, S., P. Roy, P. Srikar and S. Majumdar, 1993. *Women's Productive Work and Child Development in a Haryana Village,* New Delhi : Council for Social Development.

Mies, Maria, 1982. *The Lace Makers of Narsapur,* London : Zed.

Miller, Barbara D, 1981. *The Endangered Sex : Neglect of Female Children in Rural North India,* Ithaca : Cornell University Press.

National Council of Applied Economic Research, 1991. *Household Survey of Medical Care,* New Delhi : NCAER.

-----------, 1992. *Rural Household Health Care Needs and Availability,* Vol. I and II, New Delhi : NCAER.

National Sample Survey Organisation, 1989. Forty Second Round Report 368, Department of Statistics, Government of India, New Delhi (mimeo).

-----------, 1991. 'Child and Maternity Care: NSS Forty Second Round (July 1986-June 1987)', *Sarvekshana,* No. 47, 14 (4).

-----------, 1992. 'Morbidity and Utilization of Medical Services : NSS Forty Second Round (July 1986-June 1987)', *Sarvekshana,* No. 51, 15 (4).

Rogers, B. L., 1983. 'The Internal Dynamics of Households : A Critical Factor in Development Policy'. Paper prepared for the workshop on 'Methods of Measuring Intra-Household Resource Allocation', Massachusetts : United Nations University Press.

Sen, A. K., 1990. 'Gender and Cooperative Conflicts' in Irene Tinker (ed), *Resistant Inequalities : Women and World Development,* New York : Oxford University Press.

----------- and Sudhir Sengupta, 1985. 'Malnutrition of Rural Children and Sex Bias', in Devaki Jain and N. Banerjee (eds.), *Tyranny of the Household: Investigative Essays in Women's Work,* Delhi : Shakti.

Srikantia, S. G., 1989. 'Pattern of Growth and Development of Indian Girls and Body Size of Adult Indian Women', in C. Gopalan and Suminder Kaur (eds.), *Women and Nutrition in India,* New Delhi : Nutrition Foundation of India.

Subramanian and Deaton, 1991. 'Gender Effects in Indian Consumption Patterns', *Sarvekshana,* No. 47, 14 (4).

Unni, Jeemol, 1996. *Who is Schooled and Why? Gender Differentials in Education.* Working Paper No. 73, Ahmedabad : GIDR.

World Bank, 1991. *Gender and Poverty in India : A World Bank Country Study,* Washington D.C. : The World Bank.

Yesudian, C.A.K., 1990. *A Study of Health Services Utilization and Expenditure,* Bombay: Tata Institute of Social Sciences.

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