

Concerns of Food Security, Role of Gender, and Intra-household Dynamics in Pakistan

Hina Nazli & Shahnaz Hamid

1. INTRODUCTION

The process of decision making in a family has an important bearing on the intra-household dynamics and welfare of the household. Most models of household decision making assume that the family as a whole is the decision-making unit and there exists a single household utility function. Each member of the household jointly maximises the level of utility for a given income. These so-called 'unitary models'¹ are based on the assumption that the tastes and preferences of all household members are the same. What would be the household welfare function if household members have different preferences? This brings to the fore the questions about the distribution of resources within the household². Accounting for the variations in the preferences and tastes of the household members does not permit the treatment of the family as a single decision-making unit. In such a situation the utility maximisation depends on a collective decision process and the household welfare index depends on prices, incomes and the tastes of the household members. These models are called

¹ see for example Becker (1965); Singh, Squire, and Strauss (1986); and Haddad, Hoddinott and Alderman (1997).

² The parental altruism model reflects parental preferences in resource allocation to each child [Behrman (1994)]. The Wealth model of Becker and Tomes (1976 and 1979) and the Separable Earning Transfer models of Behrman, Pollak and Taubman (1982) are the two special cases of parents altruism models. The wealth model assumes that parents are concerned with each child's total wealth and not concerned with sources of wealth. Therefore, all children receive equal weight in the parents preference function and parents' transfers equalise children's wealth. In the Separable Earning Transfer model parents give different weights to their children's earned income as adult and their unearned income from parental transfers. This determines the level of investment in each child. The difference of preferences between parents and children is explained in Becker's (1974 and 1981) 'rotten kid theorem' which assumes the case of a household with two members; a benefactor and a recipient. The utility of recipient is function of his own consumption whereas the utility of benefactor not only depends on his own consumption but also on transferring his consumption to the recipient. Any action of recipient that increases his utility and lowers that of the benefactor would lead to lowering transfers to the recipient from the benefactor. This causes a lower level of consumption of the recipient and he will not behave rottenly. In this case the preferences of benefactor become the preferences of the households.

'collective models'^{3,4}. In these models each household member is considered as a separate unit who controls his/her own income. In such a situation, the processes of resource generation and distribution among household members leads to the examination of "intra-household resource allocation".

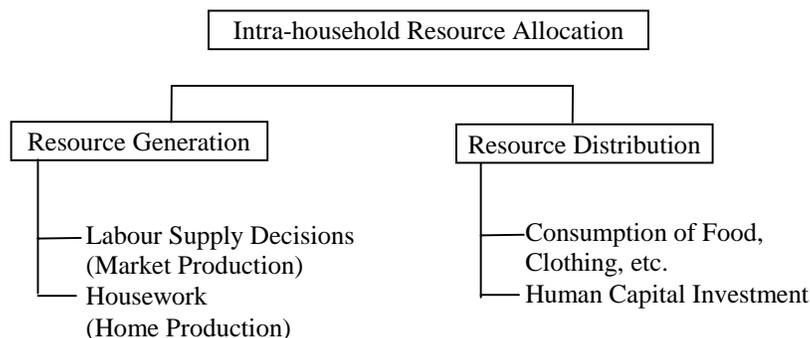
Resources are generated through the allocation of responsibilities within and outside home. The household utility function depends on the utilities of household members and is function of home produced goods, market produced goods and leisure of each member subject to their budget and time constraint. In traditional societies, males are considered responsible for fulfilling the financial needs of the household whereas females are assigned the duty of housework⁵. Thus home production depends on the time that a woman devotes to its production and the market production depends on the labour supply decisions of the household members [see chart 1]. Now the question of the distribution of household resources arises. How the household resources are distributed between men and women of a household, *i.e.*, how the consumption and human capital investment decisions take place within a household? What are the outcomes of the processes of resource distribution? Are these resources equally distributed between men and women of a household? Why women of developing countries are malnourished, less educated, have lower health status, have less participation in paid employment, and face discrimination in wages as compared to men? What type of information is needed to examine the intra-household resource allocation?

³see Haddad, Hoddinott and Alderman (1994).

⁴There are two types of collective models: cooperative and non-cooperative. The non-cooperative models assume that all individuals of a household have different preferences and act as autonomous subeconomies [Leuthold (1968); Ashworth and Ulph (1981); Ulph (1988); Woolley (1988); Kanbur (1991) and Carter and Katz (1997)]. No resources are pooled. A net transfer of income between individuals establishes the only link between them. In a two individual model, both consider these transfers as given and in order to maximise utility they chooses the goods that they exclusively consume subject to the constraints that purchases are less than own income plus net transfers. The Nash equilibrium is the level of goods consumed by individuals that satisfies both demand functions simultaneously. There are two types of cooperative models. One assumes that household decisions are always pareto efficient nothing is assumed a priori about the nature of the decision process [Apps (1981 and 1982); Apps and Rees (1988); Kooreman and Kapteyn (1990); and Chiappori (1988, 1992 and 1993)]. In the second approach, household decisions are the outcome of some bargaining process [Manser and Brown (1980); McElroy and Horney (1981); and McElroy (1990)].

⁵ In rural areas, the housework has a considerably wide range. In addition to house cleaning, cooking, washing, fetching water, collecting firewood and fodder, purchasing household goods, providing meals to the male household members who work on farm, and child care, the work related to farm, and livestock and poultry care is also considered as housework.

Chart 1
The Process of Intra-household Resource Allocation



The distribution and allocation of resources and responsibilities between household members have profound implications for the welfare of the household. Its realism recognises that women are generally more disadvantaged as compared to men in all aspects of human life and across all socio-economic and cultural settings. Therefore, incorporating gender concerns in the examination of intra-household resource allocation is imperative for a fuller understanding, not only of issues of food security management but also of the overall development process. Examining the intra-household dynamics requires individual-level information on various socio-economic and anthropometric variables. Such information is useful to explore the role of gender and associated rights and responsibilities in specific social, cultural and institutional settings and can assist in setting a research agenda on the issues of intrahousehold allocations. This information can throw light on the relationship between intra-household dynamics and the issues related to food, health and nutritional security.⁶ This can create a link among various socio-economic and anthropometric variables and individual attributes and characteristics. For example, it can highlight the link between the level of household income, household food expenditure and individual food consumption and its impact on the individual's nutritional intake and health status. The information on these outcome variables is a crucial first step before the efficiency and equity effects can be evaluated.

In Pakistan most of the data sets take household as the unit of observation, especially for the information regarding consumption pattern. A

⁶ Behrman (1988); Behrman (1988a); Rosenzweig and Wolpin (1988); Pitt, Rosenzweig and Hassan (1990); Thomas (1990); Behrman and Deolalikar (1990); and Thomas (1991).

number of representative household surveys⁷ have been conducted in Pakistan. These surveys cover various aspects of social, economic and demographic situations at the household and community levels. None of these surveys however, provide individual-level information on consumption patterns, dietary intake and anthropometric measures and most importantly do not cover women's status in terms of decision making within a household⁸.

However a few surveys conducted in selected parts of the country provide some information on the issues of household food security and women's role in decision making in terms of access and control over resources within a household. For example, the International Food Policy Research Institute's (IFPRI) study of household decision-making in selected regions of Pakistan goes part way towards addressing this problem. This study was aimed at assisting the Ministry of Food and Agriculture of the Federal Government in achieving its general goal of poverty alleviation by focussing specifically on issues of household food security. It provided policy-relevant research and information on planning nutrition and poverty-oriented policies. This survey was conducted in the rural areas of four districts, chosen from each province of Pakistan in 14 visits to the same household during six years. This survey did not specifically address intra-household issues. Some results from this study are however, relevant. These relate to the vast gender gap in human capital investment decisions and labour force participation⁹.

Sathar and Kazi (1997) examined various dimensions of women's autonomy by conducting a survey in the rural areas of Punjab. This survey covered 1036 currently married women of the ages 15-40 years, 473 husbands, focus group interviews in each site with groups of 6-10 individuals, and separate focus group discussions for men and women. This data set includes information on full birth history, contraceptive knowledge and use, and employment history. Several indicators were used to measure autonomy including women's freedom

⁷ These surveys are the Household Income and Expenditure Surveys (HIES), the Pakistan Integrated Household Surveys (PIHS) the Pakistan Micro-nutrient Survey (MNS) 1976-77; the National Nutrition Survey (NNS) 1985-87; the National Health Survey (NHS); the Pakistan Demographic and Health Survey (PDHS) 1990-91; 1990-94; and the Pakistan Demographic Surveys (PDS). HIES and PIHS provide information on household income, household consumption pattern, sources of household income, receipts, savings, assets and liabilities and various other household and community level variables. MNS, NNS, and NHS contain useful information on the intake of micro-nutrients by adult males and females, pregnant and lactating females, and boys and girls of different age groups. The data in the PDHS is helpful in exploring the status of woman within family through the information on the fertility decisions.

⁸ It has been observed that relative to fathers, mothers direct more resources under their control towards improving household concerns, especially related to the food security [Thomas (1990)].

⁹ See, for example, Alderman and Chishti (1989); Kozel and Alderman (1990); Sabot (1989); Sabot (1992); Alderman (1992); Alderman and Garcia (1993); Sultana, Nazli and Malik (1994); Alderman, Behrman, Ross and Sabot (1996); Alderman, Behrman, Ross and Sabot (1996a); and Alderman and Gertler (1997).

of movement, their decision making autonomy in both the economic and social spheres, their access to and control over resources and power relations within the household. This data set provides useful information on various community, household and individual characteristics that determine women's status in the household.

Deaton (1989) examined the issue of gender discrimination in the allocation of goods by developing an 'outlay equivalent' technique. This technique establishes a link between consumption of food relative to non-food and ratio of males to females in a household. He evaluated whether the reduction in the expenditure on adult goods is larger for the households with female child or larger for the households with the male child. Later, Deaton (1997) applied this technique on Pakistan's data derived from HIES for the year 1984-85. He took tobacco and pan, men's footwear and women's footwear as adult goods. He found that the expenditure on tobacco and pan did not decline with the presence of children of either sex. However, the expenditure on both men's and women's footwear declined with the presence of a child, irrespective of the sex of the child. In other words, no evidence of discrimination between boys and girls was observed.

Data sets that provide information related to the role of gender, household resource level, and the allocation of resources with respect to human capital investment etc. are sadly deficient in Pakistan. There is therefore, no substantial research available to-date that fully explores the relationship between intra-household dynamics and household food security. This study presents a review of the existing information on household consumption and reproductive patterns in term of gender disparities and their outcome variables such as health and nutritional status, fertility behaviour, education and employment to highlight the immediate need for a research agenda, focusing on a fuller understanding of the intra-household issues. This study is structured as follows: the definition of food security and its link with intra-household resource allocation are described in section two. The case of Pakistan in terms of the existing situation related to gender differentials in basic human capabilities such as, health, education, participation in household and market oriented activities, and in household decision making is presented in section three. The intra-household issues and conceptual framework are described in section four. Policy considerations and data needs are discussed in section five. Conclusions are presented in section six.

2. FOOD SECURITY AND INTRA-HOUSEHOLD RESOURCE ALLOCATION

2.1. Defining Food Security

Food security implies the fulfilment of essential food needs of the population of a country. This requires an increase in food production relative to

the country's population; improvement in per capita food supplies; and controlled and stable food prices. However, food security alone is not sufficient to improve the nutritional status of individuals [Alderman (1993); Alderman and Garcia (1993); Malik and Malik (1993); and Malik (1994)]. Various household characteristics, such as, household income, household consumption patterns, household's living condition, and tastes and preferences are the determining factors of individuals' nutritional standard in the family.

The Rome Declaration of World Food Summit (1996) described three major dimensions of food security as availability, accessibility and sustainability. The implications of these three dimensions at national, household and within household level are different. Table 1 shows that sustainability is the outcome of availability and accessibility. At all three levels it measures the standard of living and economic and social standing of the country in the world; the household within the country; and, the individual within a household. This table indicates that the issue of food security within a household depends on the allocation of responsibilities and resources among the household members. The question of how resources are generated and allocated within the household members and as a result who gets what, leads to examining the intrahousehold dynamics, i.e., how resources are generated and distributed within a household [see Nazli (1998)].

Table 1
Food Security at National, Household and Within Household level.

Levels	Food Security		
	Availability	Accessibility	Sustainability
National Level	<ul style="list-style-type: none"> • Production. • Imports 	<ul style="list-style-type: none"> • Per capita food availability. • Per capita income. 	<ul style="list-style-type: none"> • Incidence of poverty in the country. • Level of human resource development of the country
Household level	<ul style="list-style-type: none"> • Production. • Storage. • Purchases 	<ul style="list-style-type: none"> • Household income. • Market prices. • Preferences and tastes. 	<ul style="list-style-type: none"> • Standard of living of a household.
Within household	Division of labour between different household members, i.e., the allocation of resources and responsibilities.	<ul style="list-style-type: none"> • Market prices. • Who has control over cash income. • Who is the major decision-maker. 	<ul style="list-style-type: none"> • Differences in the social and economic status of household members.

In Pakistan, the aggregate levels of per capita food production, per capita food availability, per capita income and average calorie and protein intake has increased and the incidence of household poverty fell over the period up to 1990. Yet the levels of female and child malnutrition increased over the same period [Malik and Malik (1993); Alderman (1993); Alderman and Garcia (1993); Malik (1994); and Khan, et al (1996)]. The level of household income and prevailing market prices play an important role in making a household food secure. According to the Household Integrated Economic Survey (1992-93), the average monthly income of 67 percent (74 percent in rural areas and 48 percent in urban areas) is below Rs. 3500. In rural areas, 55 percent households earn less than Rs. 2500 per month. A major proportion of total expenditure is devoted to food items. This indicates a high incidence of food poverty. The poverty line based on the per capita calorie intake indicates that nearly 17 percent of the total households of Pakistan were not able to fulfil their caloric requirements in 1990-91 [see Malik (1994a)]. The estimates show that Rs. 320 per adult equivalent per month were required in that year to fulfil the minimum caloric requirement whereas the average monthly income of 41 percent of households was less than Rs. 2000 and the average household size was 6.6 persons during that year. Despite a decline in food poverty in recent years, no signs of improvement have been noted in child nutrition; and calorie, protein and iron intake of pregnant and lactating women [see National Health Survey of Pakistan (1998) and Jafri (1999)]. Malik (1994) concludes that due to the price instability of essential food items, the incidence of malnutrition and poverty is growing in Pakistan. He pointed out that nutritional security should be recognised as a policy objective that is distinct from food security and thus highlighted the importance of intra-household distribution issues in Pakistan.

2.2. Intra-household Resource Allocation and Food Security

The relationship between food security and intra-household resource allocation merits attention in developing countries. The gender bias in the allocation of resources within a household is an important component of this relationship in these countries. Within a family, parents may have different preferences with respect to investment in boys and girls depending upon from where they can receive higher returns to these investments. Boys are generally considered as a source of future security for the parents, and hence, are more likely to be preferred. They are desired and valued for carrying forward the family name and providing security to their parents in old age. On the other hand, the daughters move to another family after marriage and hence investing in their education is perceived to have no economic and social benefits to the family, especially in rural areas. These biased preferences are reflected in the lifelong neglect of women in terms of their extremely low status that not only

limits their access to good nutrition, health, education and employment opportunities but also restricts their taking part in key household decisions.

Women's involvement in two dimensions of food security, i.e., availability and accessibility is broadly cited in the literature. In most of the developing countries, women remain involved in various stages of agricultural production not only in family farms but also in others farms in the village. Because of their responsibilities of fetching water, collecting fodder, firewood and crop residue, grazing animals, and collecting plants and herbs for either own use or to sell as food or medicine, they remain closely associated with natural resources and therefore have better knowledge about them. It has also been observed that women devote more resources under their control towards improving household concerns related to food security as compared with men. [Thomas (1990); and Quisumbing, Brown, Feldstein, Haddad, and Pena (1995)]. Sustainability is the third dimension of food security that provides an insight into the resource distribution part of the intra-household resource allocation. The existence of vast gender disparities in terms of literacy rate, health status, labour force participation, and the share of earned income indicates an implicit bias against women in the distribution of household resources in most of the developing countries. The extent of gender bias is more pronounced in South Asia. Haq (1997) reports a considerably low value of Gender Development Index (GDI) and Gender Empowerment Measure (GEM) for this region, only 0.41 and 0.23, respectively. The value of GDI for Pakistan is 0.383 that is higher than Bangladesh (0.336) and Nepal (0.308) and lower than India (0.410), Maldives (0.599) and Sri Lanka (0.699). The value of GEM is found to be the lowest for Pakistan among the five countries that indicates the lack of opportunities for women to participate in economic and political activities as compare with men.

3. GENDER DISPARITIES IN PAKISTAN

In Pakistan, the general level of human deprivation is extremely high; population density is 163 persons per square kilometre; population growth rate is 2.6 percent; nearly 45 million individuals do not have enough income to finance the basic necessities of life; about 40 percent people do not have access to safe water; 53 percent are living without sanitation facilities; and 23 percent die before the age of 40 years [Human Development Report (1997)]. In Pakistan, women are usually subordinate to men and their role is confined only to the household chores and child care. They rarely have access to productive resources and have very limited participation in important household decisions. Even most of the important decisions of a woman's life, such as, education, work, marriage, major purchases, number of children, and decisions regarding children education and marriage are taken by the male members. Their low relative status in the household is reflected in their high illiteracy, low

educational attainment, fewer opportunities for skill development, and lower participation in economic and political activities.

It is generally believed that the distribution of household resources is biased against girls and women, especially in the rural areas. Sons are desired and valued for carrying forward the family name and providing security to their parents in old age. A considerably high demand for additional children among women with no children or with more/only daughters as compared to the women with more sons has been observed.¹⁰ A high post-neo-natal mortality rate among female children, especially if the previous sibling was also a girl has been found. This indicates that parents and family give lower value to girls since their birth; and that this is translated into their lifelong neglect. The existence of gender bias in favour of male children in feeding with solid food; and in seeking health care during sickness both in terms of quantity and quality, has been noted¹¹. Table 2 presents a picture of the gender imbalances in Pakistan. This table shows that sex ratio is in favour of males; life expectancy at birth is slightly higher for females in recent years; literacy and activity rates are extremely low for females; and the total fertility rate is considerably high. This table shows an improvement in these indicators over time but the level of gender gap is still very high.

Table 2

Gender Imbalances in Selected Indicators in Pakistan

Years	Sex ratio	Life expectancy at birth		Post-neonatal mortality rate		Total fertility rate	Literacy ratio		Crude activity rate	
		Female	Male	Female	Male		Female	Male	Female	Male
1961	115.3	45.0	47.0	—	—	6.5	8.2	26.9	6.1	55.0
1991	106.9	59.3	60.7	52.2	47.4	6.0	20.2	39.9	9.2	46.1
1997	106.0	63.4	63.0	39.8	36.1	5.4	28.0	51.0	7.6	45.9

Source: Government of Pakistan (1995 and 1997).

In addition, in the existing social set up, females, especially in rural areas, are less mobile. This keeps them away from educational institutions, health care centres, and market and financial institutions. This widens the gender disparities in basic human capabilities. This section presents the review of available research that describes the status of Pakistani women through basic human capital indicators, such as, health, education, participation in productive work within and outside home, and empowerment.

¹⁰ Khan and Sirageldin (1977); Rukannudin (1982); Khan and Sirageldin (1983); Miller (1984); De Tray (1984); Sathar (1987); Ali (1989); Ali (1989a); and Khan and Malik (1993).

¹¹ Sathar (1987); Sathar (1987a); Ahmad (1990); Mahmood and Mahmood (1995); Alderman and Garcia (1993); Alderman and Gertler (1997); and Mahmood and Nayab (1999).

3.1. Health Indicators

The neglect of females in health care in all the stages of their life is reflected in the high incidence of malnutrition and high mortality rates as compared to males. In this sub-section we will examine the status of women by looking at life expectancy at birth, nutritional status, and access to health facilities.

3.1.1. Life Expectancy at Birth

Generally given the same health and nutritional status, females live longer than males. Pakistan was amongst the few countries with a higher life expectancy of males. It is only since the 1980s that the situation has reversed and females have a slight edge over males in life expectancy. This is mainly because of the recent improvement in infant mortality rate, especially during the post-neonatal period. However, maternal mortality rate is still high in Pakistan. According to the Human Development Report (1997), maternal mortality rate in Pakistan is 340 per 100000 live births. ADB (1997), however, reports that about 30,000 (*i.e.* 1 in every 38) women die each year due to pregnancy related complications. Furthermore, birth intervals are short and total fertility rate is considerably high (5.4 per woman) due to low contraceptive prevalence rate. Inadequate availability of effective contraceptive methods, lack of inter-spousal communication about the number of children the couple would like to have, and the declining trend in breast-feeding are the major reasons of shorter birth intervals and high fertility rates in Pakistan. This not only has unfavourable implications for the baby and the mother but also causes a neglect in the care of children who are already born.

3.1.2. Nutritional Status

The nutritional status reflects not only the quantity of food available and consumed but also its quality, and the extent to which the body transforms this food into nutrients that protect and promote health. According to the National Nutrition Survey (1988), nearly 65 percent of the young children and 45 percent of pregnant and lactating women suffered from anaemia due to iron deficiency. Nearly 28 percent of pregnant and 46 percent of lactating women consumed less than 70 percent of recommended daily allowance (RDA) of calories. This proportion has not changed much in 1995 [NHS (1995)]. The National Nutrition Survey (1988) observed a high incidence of malnutrition among children under 5 years of age. About 52 percent of children were found to have low weight for age (underweight); 42 percent had low height for their age (stunted); and 11 percent had low weight for height (wasted). In recent years the proportion of children stunted declined to 36 percent, while the proportion of children wasted increased to 14 percent in 1995 [NHS (1995)]. NNS (1988) also observed low

consumption of protein, calories and iron among children. Almost 10 to 20 percent children of age under five years, received less than 70 percent of the RDA of protein, nearly 30 to 40 percent received less than 70 percent of the RDA for calories and 25 percent children of the age group 4 to 5 years received less than 70 percent of the RDA for iron. Among these children girls suffered more than the boys. This indicates that despite an improvement in the macro indicators such as per capita income and per capita food supply, vulnerable groups receive much less than the average. This results from both inter and intra-household inequalities.

3.1.3. Access to Health Facilities

Because of meagre health facilities, especially in the rural areas, female mortality rate is considerably high, particularly during their reproductive period. In addition to the supply constraints, various domestic and cultural barriers limit the access of women to the health care services. For example, many women do not like to be examined by the male doctors for their health problems. Because of the shortage of lady doctors, some women remain unattended and therefore suffer immensely. Various household and farm activities keep the majority of rural women so busy that they could not find time to visit the medical centre. The lack of transportation facilities is another reason of this limited access. Moreover, low levels of household income, ignorance and illiteracy also create problems in their accessibility to the health facilities. These problems are more acute in rural areas and create complications even in mild illness.

In addition to this, Alderman and Gertler (1997) observed gender differential in the demand for medical care in Pakistan within families. They found that low income households seek medical care more often for male children than for female children and the male children are usually treated by a high-quality of medical care provider such as private doctors as compared to female children irrespective of household income. They also observed considerably higher price and income elasticities in seeking medical care for female children than for male children. This indicates higher levels of human capital investment in male children with respect to medical care. The differences in price elasticities reported in this study disappear as the level of family resources rise. These results suggest that general policies aimed at reducing poverty and increasing income would help in reducing gender discrimination in human capital investment.

Lack of access to health services and ignorance about the preventive medicines and immunisation sometimes leads to disabilities. According to the census of 1981, 371420, persons were disabled. Among them, 55 percent were females. In women, various disabilities are caused by complications during pregnancies.

3.2. Literacy and Education

Extremely low rates of adult literacy and gross enrolment, high rates of drop-out and pupil-teacher ratio, and low levels of public investment indicate the very dismal performance of the education sector. This performance further deteriorates when gender issues are considered. Among females, the literacy rate is outrageously low. It has increased from 8.2 percent in 1961 to 28 percent in 1997. This rate is still two-times lower than that of males' literacy rate. In rural areas, females literacy rate has increased from 3.4 percent in 1961 to 12.4 percent in 1997. Despite a substantial increase in the number of educational institutions, female enrolment is still only one-third of the total enrolment. Various demand and supply constraints are responsible for large gender gap in the enrolment rate. It has been noted that due to high incidence of poverty and illiteracy among parents, and large household size, girls are involved in a variety of domestic work activities instead of attending school. Rafiq (1996) noted that in rural areas, most of the girls schools are under-utilised¹². Due to various reasons, such as, lack of female teachers, higher incidence of poverty, long distances between school and home, bad or no transport facility, etc., girls are less likely to enrol and more likely to drop out, especially at primary level, and particularly in rural areas¹³. In addition, lack of primary schools has negative impact on girls education and is the major reason for the existence of large gender gap not only in school enrolment and but also in cognitive achievements, specially in rural areas¹⁴.

Regarding the demand for children's primary education, Sathar and Lloyd (1993) found a discriminating parental attitude in favour of boys. Parents education and household income appeared to be the most important factor in reducing this gender bias in terms of primary education. Low levels of female enrolment at primary level are reflected in the extremely low enrolment at professional levels as compared to males. Due to the lack of technical and vocational training institutions, particularly in rural and remote urban areas, a majority of women prefer to adopt education as profession or stay at home.

3.3. Female Participation in Productive and Household Tasks

Women allocate their time to market production, home production and reproduction. In market production, they work and earn wages; in home production, they are the household managers but their work is considered as non-productive; and reproduction is also considered as part of home production and remain un-rewarded.

¹² The schools that have less enrolment than their capacity in terms of number of class rooms and number of teachers are considered as under-utilised.

¹³ Khan, Siddiqui and Hussain (1986); Sarmad, Hussain and Zahid (1988); and Sawada (1997).

¹⁴ Sabot (1992); Riaz (1994); and Alderman, Behrman, Ross and Sabot (1996a).

Like other developing countries, a majority of women in Pakistan's rural areas are involved in the agriculture production process. Various studies noted that in rural areas of Pakistan, women are engaged in a variety of agricultural activities such as land preparation, seed preparation, collecting farm yard manure, weeding and harvesting. Women also undertake the responsibility of cleaning, drying, and storage of grains. Taking care of livestock is another duty that is usually performed by rural women. They collect fodder, clean sheds and process animal products. In addition to these, they perform various household tasks, such as, cooking, washing, house cleaning, fetching water, collecting fire woods and care of children and elderly members of the family¹⁵. Unfortunately their involvement in productive activities related to agriculture and livestock management is undervalued and regarded as housework. It has been observed that on average they spend at least 12 to 15 hours per day in household chores. Many studies¹⁶ observed that the average rural woman worked between 25 to 35 hours per week in household activities excluding child care. If market-oriented activities and child care are also included then their workload and time both increase notably. Sarwar and Saleem (1993) noted that in rural areas, females of the farm households spend 54.9 percent of their time on domestic work, 22.4 percent of livestock, and 9.2 percent on crops. Sultana, Nazli and Malik (1994) examined the pattern of time allocation of working and non-working women in rural Pakistan. They found that the wage earning women bear a larger burden of household work. On average, working women spend 19 hours per week in market-oriented work and 28 hour per week in household chores. On the other hand, non-working women spend 16 hours per week in domestic work. This reflects the economic condition of the working and non-working women in the selected sample of that study. The women who stay at home are found to be wealthier and afford to take leisure. This study also estimated the determinants of female time allocation and observed a negative and significant association between women's reservation wage rate and decision to participate in labour market. However, education and market wage rate are found to have positive impact on this decision.

The studies cited above conclude that on-farm labour input of a woman is considered as a part of housework whereas the same work by males is considered as productive. This is a major reason of low female labour force participation rate in Pakistan¹⁷. Mehmood and Nayab (1999) observed that if

¹⁵ Khan and Bilquees (1976); Ali and Ahmad (1983); Gerold (1987); Alderman and Chishti (1989); Sabir, Nagy and del Castillo (1989); Ahmad, Asghar and Khan (1993); FAO (1997); and AERC and PIDE (1998).

¹⁶ Khan and Bilquees (1976); World Bank (1990); Alderman and Chishti (1989); and Ahmad, Asghar and Khan (1993).

¹⁷ At present, Crude Activity Rate is 9 percent and refined activity rate is 13 percent.

these activities are considered as productive employment then female labour force participation would increase to 38.4 percent from 13.6 percent in 1996-97.

The Labour Force Survey of Pakistan (1993-94) reports that 83 percent of the working females in rural areas are engaged in agriculture, 7 percent in manufacturing and 6 percent in community, social and personal services. Out of these working women, only 2 percent are professional and 0.08 percent are administrative and managerial workers. Employment status of rural working women reveals that 68 percent of these women are unpaid family helpers. Among them 50 percent work more than 35 hours per week. The data indicates that the working conditions for rural women are tough and difficult. They work long hours and earn less. The limited access to health, education, vocational training and credit facilities keep the women away from taking part in income generating activities, especially from white collar jobs. Their decision to participate in labour market is strongly influenced by the family structure and relationship with the head of the household¹⁸. In Pakistan women face extremely discriminatory and exploitative wage market, especially in agriculture and informal sector where they receive low reward as compared to the labour and time that they devote to these activities. Various studies have found that female's decision to participate in the labour market is significantly determined by household income, family size, educational attainment, and market wage rate¹⁹.

3.4. Women and Household Decision Making

The division of labour based on gender defines the roles and responsibilities of men and women within and outside home. Pakistan's cultural and social setting favours men. A strong son preference among married couples is reported. Women's subordination is documented by many studies that is reflected in their high illiteracy, high incidence of malnutrition and lack of timely modern medical treatment, restricted mobility, heavy load of work, and no recreational activity²⁰.

Sathar and Kazi (1997) examined women's autonomy in rural areas of Punjab by probing into the decision-making process in the household, women's access to productive household resources, women's mobility and purdah, valuation of children by their gender, interspousal communication, and the prevalence of domestic violence. They observed that women's involvement in economic decisions is extremely limited. The majority of women participate

¹⁸ Kazi and Bilquees (1992); and Sathar and Desai (1996).

¹⁹ Afzal and Nasir (1987); Chaudhry and Khan (1987); Masood (1988); Bilquees and Hamid (1989); Alderman and Chishti (1989); Kozal and Alderman (1990); Hamid (1991); Kazi and Raza (1991); and Sathar and Lloyds (1993).

²⁰ Mukhtar and Mukhtar (1989); Mamtaz and Fatima (1992); Kazi and Sathar (1996); and AERC and PIDE (1998).

only in decisions related to the purchase of food. In all other decisions, either domestic or economic they are consulted but do not act as major decision makers. The authors found a positive relationship between women's paid employment and power of decision making. A clear indication of higher valuation of sons is also noticed. The level of interspousal communication regarding money matters is found considerably high whereas only 38 percent women discuss the matter of birth control with their husbands. A majority of women face the fear of domestic violence either in form of disagreement or in form of beating. Family structure is found to be an important determinant of women's autonomy. Women living in the nuclear family are more empowered and are more likely to play a crucial role in important household decisions. The study observes a strong and positive association between mobility and decision-making authority. Age, education, nature of employment, and family structure are the determining factors of mobility and, hence, of the role in major decisions.

It is also noted that women have little access to asset ownership. Because of the prevailing traditions, gold jewellery is the most commonly owned asset by the Pakistani women. Very few women own land or other physical assets. The lack of asset ownership, especially in terms of land, limits their access to the institutional credit. This keeps them away from self-employment opportunities. AERC and PIDE (1998) observed that in rural Pakistan only 16 percent of the total women were the borrower. And due to the lack of collateral, less than 0.4 percent were able to obtain loans from institutional sources. The majority of women (94 percent) borrowed to fulfil the consumption needs of the household, 4 percent borrowed for agriculture and only 2 percent for non-agriculture purposes.

The decision-making power has significant impact on the family size. In a male dominating society like Pakistan, husband plays a predominant role in all major household decisions including the reproductive behaviour and the use of contraceptive methods. The lack of interspousal communication about the number of desired children hampers the use of contraceptive methods and thus resulted in high fertility rate. The level of interaction between husband and wife on the quantity and quality of children is significantly determined by the age and education of wife, and the number of boys and girls they already have²¹.

Research indicates that husband's authority plays a decisive role not only in fertility decision-making but also in other major family and non-family decisions. Due to the subservient status of women, the wife is bound to obey his decision regarding practising or non-practising of contraception. Khan and Sirageldin (1981) estimated the level of interaction between husband and wife

²¹ Khan and Sirageldin (1981); Khan and Sirageldin (1983); Khan and Malik (1993); Farooqui (1994); Ali, Siyal, and Sultan. (1995); Mahmood and Ringheim (1996); Zafar, (1996); and Sathar and Kazi (1997).

on the quantity and quality of children in Pakistan. They found that husband's demand for additional children is significantly determined by wife's demand, her age and education, and the number of living boys and girls. On the other hand, husband's attitude was found as sole determinant of wife's demand for additional children. In studying the desired number of additional children, Khan and Sirageldin (1983) concluded that one-unit increase in the husband's desire for additional children, increases the wife's desire by 1.5 units while the number of children desired by the wife has no effect on the number of those desired by the husband. They also found that the demand of additional children by both, husband and wife, is two time higher if the number of living girls is more than the living boys in that family. A strong association between women's status and the fertility behaviour has been observed.

4. INTRA-HOUSEHOLD ISSUES AND CONCEPTUAL FRAMEWORK

The estimates of poverty, calculated on the basis of per capita caloric intake, indicate that despite an increase in the per capita availability of food, a considerable proportion of population is still food insecure. Within a household, each member participates in producing commonly consumed goods and therefore contributes in achieving the desired food security. Women play a vital role in making a household food secure. In the rural areas of Pakistan, they remain involved in various stages of production and storage of agriculture produce. They put considerable input in livestock and poultry management. In addition to these, they are the household managers and care takers of children and elderly. However, the outcomes based on the existing information indicate that despite their considerable contribution in variety of work within and outside home, women of Pakistan are neglected in major household decisions. Most of their work related to farm, poultry and livestock management is considered as part of their housework and the amount of labour that they devote for household maintenance is ignored in macro-economic planning. Moreover, due to the lack of access to resources, such as, land, asset ownership and credit, employment status of majority of women is either classified as 'unpaid family helper' or 'employees'.

The role of women in three dimensions of food security is described in Chart 2. This chart shows that women play a significant role in making food available to the household members. Despite their low participation in labour force and negligible say in household decisions, they are the major decision maker regarding food purchases [Sathar and Kazi (1997)]. It has also been observed that women of Pakistan are far behind men in basic human capabilities. They are less educated; their health status is low; they are discriminated against men in wage market; they are less mobile; they are overburdened; and their work is undervalued. Is this discrimination the result of

inadequate control over productive resources, or is the limited control over productive resources the major cause of their backwardness? How are resources generated, controlled, and distributed within a household? In this process who gets what? Who is the main decision maker? Do the availability and accessibility of food imply sustainable food security? How can a household achieve sustainable food security?. These crucial questions form part of the *black box* in Pakistan's case and can not be answered unless the individual-level data especially on various socio-economic and anthropometric variables is available. The lack of individual-level information on key variables, such as, consumption, dietary intake, health, anthropometry, division of labour, earned income, asset ownership, access to credit and other productive resources, decision making process, etc., limits the possibility of examining of the intra-household dynamics in Pakistan. The lack of such information is one major reason for the failure of existing policies that were initiated with the aim of benefiting poor people.

5. POLICY CONSIDERATIONS AND DATA NEEDS

Most of the development and welfare policies aim to raise the standard of living of individuals in the country that, in turn boosts the pace of economic development and improves the standing of the country in the world. Haddad, Hoddinott and Alderman (1997) pointed out that ignoring the household decision making process can cause well-intentioned policies to backfire. Deaton (1989) asserts that the extent of discrimination in the allocation of goods between boys and girls is constrained by the lack of data on who gets what. Thus the individual-level information on various socio-economic, demographic and anthropometric variables is useful for effective policy formulation, such as:

1. The individual-level data can identify the existence of vulnerable groups, such as malnourished individuals, especially women and children within a household. This information may change the social and economic ranking of that household in a household group and suggest the need for improvement in the income and health related policies. [see Haddad and Kanbur (1990)].
2. Agriculture modernisation may affect the on-farm responsibilities of men and women. Women's involvement in production processes may decline and consequently the number of women labourers and unpaid workers increase. This places a direct effect on intra-household allocations by affecting the income flows and control over resources and indicates the need to understand the intra-household dynamics before implementing a policy for agriculture development.
3. Industrial development causes male-oriented migration from rural to urban areas. In case of meagre and erratic remittances from city/town, women bear a greater burden of managing the household as well as

generating household earnings. Moreover, the increasing population pressure on urban setting creates problems for planning and development authorities in urban areas. An industrial policy should take into account the element of migration and should emphasise on the promotion of rural-base industries.

4. Environmental degradation increases the burden of work on women. For example, women's time allocated to collect fodder, firewood, crop residue, and water increases as deforestation, and water pollution increase; and, the share of common land decreases. This reduces their time spent on other household activities including childcare. This suggests that the provision of clean water at the door step, availability of natural gas or kerosene oil and electricity would not only save their time and energy but also help in creating non-farm opportunities in income generation. This also recommends to adopt policies for natural resource conservation.
5. The evidence indicates that gender disparity declines as the household resources increase [see Alderman and Gertler (1997)]. Therefore, the understanding of intra-household dynamics can help in the fruitful implementation of policies aimed at poverty alleviation.
6. Research by Folbre (1997) found that the inequalities within household have profound implications for public policy. As mothers devote more time and resources towards children than fathers do, the degree of public assistance for child care has a significant impact on women's position in both the family and the labour market. Similarly, the implicit gender bias in the family laws, social entitlements, and public transfers suggests the need for improvement in the existing public policies.
7. Income in women's hands is the most powerful determinant of their autonomy. The issue of marketing of their products should be considered essential when designing a policy of easy access to credit facility for self-employment.

A fuller understanding of the intra-household dynamics requires information on various aspects such as: division of labour within and outside home; decision making process; asset ownership; access to resources, such as, health, education, employment, and credit; mobility; pattern of food consumption; and demographic and anthropometric measures by gender, age, headship of the household and relationship with the household head. In order to capture the cultural, regional, provincial and seasonal variations, a suitable representation of each region/agroclimatic zone/province and social class are necessary in the sampling procedure. Besides, an appropriate sample must focus the poorer members of the society as the concern of food security and

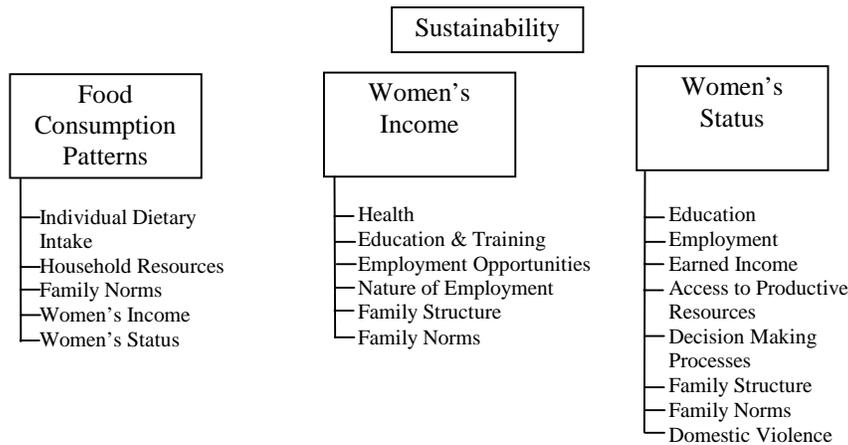
distribution and allocation of resources are more significant for the poor. Any macro crisis, for example, unfavourable weather, floods, inflation, etc., affects the poor more adversely. They face food insecurity in three different manners when their real income falls. First, the subsistence farmers constrained to use smaller amounts of agricultural inputs that results in lower production and therefore increases the risk of being food insecure by reducing their income (purchasing power) as well as consumption (production for domestic use) [see Malik (1999)]. Second, in order to maintain a minimum level of food, poor reduce the expenditures on education, health, clothing, etc. Consequently they suffer from the lack of basic services and the increased probability of falling sick if they live in unhygienic condition. The lack of medical care may prolong a mild illness and increase its eventual severity. And third, a substitution of normal to inferior food takes place that can create the deficiency of important micronutrients in the body. All these situations are a threat for household food security and have an important bearing on intra-household allocations and distributions of available limited resources, *i.e.*, who gets what within a household in critical situations, especially in the presence of acute gender discrimination.

Chart 2 shows that all three dimensions of food security are interlinked. Sustainability is the third dimension of food security that determines the economic and social standing of an individual in the household. In other words, this dimension provides an insight into the intra-household dynamics. A sustainable food security depends not only on the consumption of food by each individual but also on the income that a woman controls and on her status in the family. Food consumption patterns are generally determined by various internal and external factors.

Examining the internal factors necessitates the understanding of the process of decision making and of women's income and women's status by looking at the extent of gender bias in all aspects of life within a household. Evidence indicates that women devote more time and resources towards children and therefore contribute significantly in raising household welfare. Therefore women's higher incomes are translated into their authority in decision making that is eventually reflected into better food provisioning and better nutritional status of the household members. Besides, women's status is another important determinant in establishing her position as decision-maker, and thus making a household food secure. The income and status of women depend not only on socio-economic, cultural, and community factors but also on family norms [see Chart 3]. Food consumption patterns, women's income and her status have both direct as well as indirect effects on sustainable household food security. Therefore, the information on these variables are essential for the formulation and implementation of effective policies for the betterment of individuals. The importance and significance of collecting information on these variables is briefly explained below.

Chart 2

Chart 3
Women and Sustainable Household Food Security



5.1. Food Consumption Patterns

Individual level consumption of food is an important indicator to examine the relationship between intra-household resource allocation and household food security. Availability of and accessibility to food make a household food secure. Does food security leads to nutritional security? Nutrition security is related to the intake of balanced diet and hygienic living conditions and is a sound measure of individual well-being. "It is possible to be malnourished in a food-secure household as a result of disease, inadequate care, or inequitable allocation of food. A household may be food secure in terms of calories, but dietary quality determines the likelihood of micronutrient deficiencies in individuals" [Alderman and Garcia (1993), page 50]. Thus the collection of individual-level information on dietary intake is vital to examine the issue of intra-household resource allocation and sustainable household food security.

5.2. Women's Income

A large body of literature indicates that women usually have control over the income that they earn. It is observed that their earned income is positively and significantly related with their authority as decision maker in the household. A woman's possibility to participate in income generating activities depends on various social, cultural and economic variables, such as, her education, health, opportunities of work, distance to work place, means of transport, family structure, household size, fertility decisions, willingness of family members, etc. This requires collection of individual-level information on time allocation in

household, market, recreational activities and also on child care in addition to some supply factors, such as, opportunities of work, distance to work place, means of commutation, etc. Furthermore, in order to examine the direct effect of women's income on household welfare, there is a need to look at the consumption/saving components of their incomes.

5.3. Women's Status

Incorporating gender concerns in the relationship between intra-household resource allocation and household food security requires to explore the status of women in a household. For example, the questions related to women's social and recreational activities are important determinants of their status within family [Basu (1992)]. Similarly the importance of questions related to occupational mobility, access to communal resources, access to external support system, and access to government and non-government support system is highlighted by Agarwal (1990). Sathar and Kazi (1997) find that women's autonomy is significantly determined by the decision-making process in the household, women's access to productive household resources, women's mobility, valuation of children by their gender, interspousal communication, and the prevalence of domestic violence. Information on the following variables is helpful in examining the status of women in a household.

- To probe into the decision-making process, there is a need for some qualitative questions, such as, who makes decision about quantity and quality of children, their education, their medical care in case of illness, their employment, and their marriage; who decides about the sale/purchase of property, animals, household durables, and food; what are parents desired levels of children's education and their marriage; does the mother's desired level of education about her daughters play a role in the actual level of her education etc. It is also important to know the extent of liberty parents give to their children in getting education, choosing occupation and getting married.
- In many developing countries like Pakistan, because of the existence of joint family system, a household consists of at least three generations; parents, married sons, and son's families. In such cases information on inter- and intra-family distribution of responsibilities and allocation of resources would greatly help in targeting the vulnerable groups. For example, what is the standard of living (status) of a non-earning widow (and her children) who lives with her in-laws. What socio-economic, family and community constraints a single/divorced woman faces.
- In the Family Laws of Pakistan, polygamy is legal. The extent of polygamous marriages remained unexplored. Pakistan Demographic and Health Survey (1990-91) did ask the questions whether the respondent is married once or more than once. This survey also

contains information about the number of wives, a male has. This results from this survey indicate a smaller prevalence of polygamous marriages in Pakistan than was largely believed. The reasons for second marriage are, however, not explored in this survey. The prevailing customs in Pakistan show that men generally contract a second marriage in the desire for a son. "If a son is not born, many men get a second wife. A women's life is miserable because of not having a son. She is given more value if she has son" [Sathar and Kazi (1997)]. In such a situation, the husband's income divides between two wives and their children and this has important bearings for household food security in addition to the psychological and social consequences. There is a need to explore the reasons of polygamous marriages further.

- The unstable relationship between husband and wife often results in physical violence that breaks the myth of the family. The victim of this violence are generally women, or/and children. Exchange of harsh words, physical quarrel, beating and burning are examples of domestic violence that in most cases arise as a result of husband's authority and power over wife and in some cases due to the clash between mother-in-law and daughter-in-law. The violence, that arises due to husband's excessive spending on drugs and gambling instead of maintaining the household, asserts a direct effect on household food security. In such circumstances, woman bear the double burden of supporting and maintaining a household and thus live in miserable condition that not only create a negative impact on household welfare but also instil a sense of insecurity among children. Sathar and Kazi (1997) explored two aspects of domestic violence: wife beating and fear of husband's disapproval. They found that 82 percent of the women have fear of disagreeing with husband; 35 percent say that their husband have beaten them some time; and, 7 percent report that this happens regularly. Bari (1994) concludes that domestic violence can not be stopped until and unless women come out of their subordinate status. A recent survey report on Rawalpindi district by the District Administration, UNICEF and CIET found a higher incidence of malnutrition among children under 3 years of age whose mothers face domestic violence. This report observed that 13 percent of the women experienced serious domestic violence during last year; half of these at the hands of the husband and one-fourth at the hands of the mother-in-law. In Pakistan's social system, mother-in-law plays an important role in major household decisions, irrespective of the family structure. Therefore, in order to understand the intra-household dynamics, there is need to collect information on the causes and extent of domestic

violence in addition to examine the relationship between mother-in-law and daughter-in-law.

- In Pakistan, due to massive illiteracy, women are generally unaware of their rights. That is perhaps the reason why a majority of women report satisfaction with their subordinated status within the home. Nasreen, Qazi and Ijaz (1996), noted that nearly 69 percent respondents of their selected sample were satisfied with the dominant role of their husbands and their position as housewives. Inter-spousal communication is rare. This study reported that such communication was registered in the 'often' category by only 44 percent of the women, 33 percent reported it as 'sometimes', and 23 percent as 'never'. In the sample on which the Sathar and Kazi (1997) study is based, a majority of women (92 percent) reported that men should make most important household decisions. This suggests the need to explore the degree of subordination, its reasons and consequences. In other words, what is the perception of women about male domination in household decisions and what are its consequences?

Data can be collected by the structured interviews, focus group discussions and community participation. The individual-level information on dietary intake can be collected by 24-hour food recall method. This methods requires examination of the information on food taken by each individuals in a household on the basis of 24-hour recall. Information on anthropometric measures can be collected by measuring the height and weight of every household member²². Community participation is helpful in deriving information on various qualitative variables related to inter- and intra-household resource distribution and allocation. In addition to structured survey methods, role and status of women can also be examined by the Rapid Appraisal (RA) methods. These methods are used to obtain detailed and practical information on development issues in local communities in a relatively short period of time. These methods can help in drawing inferences based on observations and can promote the participation of the target group by creating awareness and information dissemination through the formation of village level associations.

In order to examine the gender perspective into natural resource conservation when natural resource conservation is not a normal priority in the lives of rural people, FAO (1997) used Participatory Rural Appraisal (PRA)²³ technique to promote and consolidate people's participation in the conservation

²² Available data sets have been collected these information for children only.

²³ Rapid Appraisal (RA) approach can be divided into Rapid Rural Appraisal (RRA) and Participatory Rural Appraisal (PRA). If the learning process is mostly managed by outsiders, such as development field workers, it is called RRA. If, on the other hand, it is a continuous research and action process managed by the local community, it is called PRA.

and development of upland catchments in Kanak Valley of province Balochistan. This approach used various PRA tools, such as, group meetings, map building exercise, daily time profile exercise, semi-structured individual interviews, transect walk, and village to village visits. Group meetings are helpful in introducing the project team, map building exercise points out the location of places such as farm, market, health clinic, bank, and the places from where women collect fodder, fuel wood, and water. Daily time profile exercise helps in collecting the disaggregated time-use data. Semi-structured interview with key informers and dominating women are useful in collecting village level qualitative information. This case study finds PRA as more useful for developing women's associations and partnerships than as a method of collecting information.

A system of routine data collection would help in assessing the policies over time. Observing the same households over several points of time (panel data collection) would provide a rich and in-depth set of information on the stock and flow of household resources. Panel data examines the cross-sectional variations over time. Such a data set allows the analyses of the dynamic dimensions of poverty, income, consumption, savings, food security, nutritional security, gender relations, and intra-household resource allocation that can be overlooked in a simple cross-section or time-series data collection. Therefore, the collection of individual-level information over time would greatly help the policy makers in formulating more comprehensive and suitable policies incorporating vulnerable groups such as women, children and the poor.

The collection of individual-level information increases the length of questionnaire and hence the interview time. Levin, Ralston and Haddad (1993) raised the issue of increased interview burden on participating households and the possibility of loss of their income. They suggest to provide some compensation to the respondent in order to change the interviewer-respondent relationship and biased responses. A cost-benefit analysis of such data collection is also presented in this study. The element of cost includes interview time, questionnaire preparation, form printing cost, questionnaire editing, and data entry costs. The possibility of effective policy making for the vulnerable groups comes under benefits. These authors also point out the ethical issues involved in the collection of individual-level information such as the protection of confidentiality, and protection from possible physical, psychological, social and economic harm that may arise because of collecting individual-level data. These ethical issues and the elements of cost and benefits should also be taken into account in the designing of a study on intra-household dynamics.

6. CONCLUSION

High incidence of poverty and resultant malnutrition indicates the prevalence of food insecurity in Pakistan. Despite a considerable increase in per

capita income and per capita food availability, and decline in the overall levels of poverty; the level of human resource development is extremely distressing. The existence of vast gender disparity in all basic aspects of life are reflected in the extremely low status of women, their high illiteracy, low health status, less participation in paid work, and lack of awareness about their rights. Despite providing a considerable input within and outside home, women of Pakistan, especially in rural areas have limited control over productive resources. The low status of women is the one major reason of low human development record in Pakistan. Does the low level of human resource development contribute significantly to policy failure or does it arise out of the failure of policies focusing on the improvement in the welfare of individuals? This is currently a great point of concern for the policy makers in Pakistan. Understanding the dynamics of intra-household decision making is crucial not only for the effective design and implementation of welfare policies but also for their evaluation.

Examining the intra-household dynamics would shed light on how resources are generated, controlled and distributed in a household. Due to the lack of appropriate data, this issue forms a black box in Pakistan's case. This paper highlights the importance of understanding the intra-household dynamics for the effective design and implementation of suitable policies. In this regard, data needs are outlined. Suggestions are made to collect both, quantitative as well as qualitative data on various social, economic, demographic, and anthropometric variables on individuals. Such surveys should focus more on the poor. The data set thus generated would give a picture of household resource base, household endowments, gender relations, and inter- and intra-household resource allocations that are necessary for the formulation and implementation of suitable and effective policies for benefiting the vulnerable groups.

REFERENCES

- ADB (1997) The Situation Analysis of the Status and Quality of Women's Health Care in Pakistan. Draft Report. Islamabad.
- AERC and PIDE (1998) *Role of Women in the Rural Economy and the Credit Market Study*. Report Prepared for the State Bank of Pakistan. (Rural Financial Market Studies Phase II. Study No. 4.)
- Afzal, M., and Z. M. Nasir (1987) Is Female Labour Force Participation Really Low and Declining in Pakistan: A look at Alternative Data Source. *The Pakistan Development Review* 26:4.
- Afzal, M., R. T. Aslam, and M. Ali. (1988) Some Differentials in Infant and Child Mortality Risks in Pakistan. *The Pakistan Development Review* 27:4.
- Agarwal, Bina (1990) Social Security and the Family in Rural India Coping with Seasonality and Calamity. *The Journal of Peasant Studies* 17:3.
- Ahmad, Ambareen (1990) Gender Differential in Access to health Care for Pakistani Children. UNICEF

- Ahmad, Munir., Chand Asghar, and Nasir Alam Khan (1993) Participation of Rural Women in Agricultural and Household Activities: A Micro-level Analysis. In A. S. Haider, Z. Hussain., R. McConnen, and S. J. Malik (ed) *Agriculture Strategies in the 1990s: Issues and Policies*. Islamabad: Pakistan Association of Agricultural Social Scientists.
- Alderman, H., and M. Garcia (1993) Poverty, Household Food Security, Nutrition in Pakistan. International Food Policy Research Institute. Washington, D.C. (Research Report No. 96.)
- Alderman, H., and P. Gertler (1997) Family Resources and Gender Differences in Human Capital Investments: The Demand for Children's Medical Care in Pakistan. In Haddad, L., J. Hoddinott and H. Alderman (1997) (ed) *Intrahousehold Resource Allocation in Developing Countries: Models, Methods and Policy*. Baltimore: Johns Hopkins University Press.
- Alderman, H., and S. Chishti (1989) Simultaneous Determination of Household and Market Oriented Activities of Women in Rural Pakistan. *Research in Population Economics* 17.
- Alderman, H., J. Behrman, D. Ross., and R. Sabot (1996) The Returns to Endogenous Human Capital in Pakistan's Rural Wage Labour Market. *Oxford Bulletin of Economics and Statistics* 58:1.
- Alderman, H., J. Behrman, D. Ross., and R. Sabot (1996a) Decomposing the Gender Gap in Cognitive Skills in a Poor Rural Economy. *Journal of Human Resources* 31:1.
- Alderman, Harold (1993) Issues of Food Security in Rural Pakistan. In A. S. Haider, Z. Hussain, R. McConnen, and S. J. Malik (ed) *Agriculture Strategies in the 1990s: Issues and Policies*. Islamabad: Pakistan Association of Agricultural Social Scientists.
- Ali, M. Manzoor, and Nadeem Ahmad (1983) Role of Women in Rice Farming in Pakistan. Social Science Division. Pakistan Agriculture Research Council. Islamabad.
- Ali, S. Mubashir (1989) Determinants of Family Size Preferences in Pakistan. *The Pakistan Development Review* 28:3.
- Ali, S. Mubashir (1989a) Does Son Preference Matters. *Journal of Biosocial Science*. 21:4 399–408.
- Ali, S. Mubashir, H. B. Siyal, and M. Sultan (1995) Women's Empowerment and Reproductive Choices. *The Pakistan Development Review* 34:4.
- Apps, P. (1981) *A Theory of Inequality and Taxation*. Cambridge: Cambridge University Press.
- Apps, P. (1982). *Institutional Inequality and Taxation*. Cambridge: Cambridge University Press.
- Apps, P., and R. Rees (1988) Taxation and the Household. *Journal of Public Economics* 35:3 355–369.

- Ashworth J., and D. Ulph (1981) Household Models. In C. V. Brown (ed) *Taxation and Labour Supply*. London: Allen and Unwin.
- Bari, Farzana (1994) Myth of the Family. *Journal of Women's Studies* 1:1.
- Basu, A. M. (1992) The Status of Women and the Quality of Life among the Poor. *Cambridge Journal of Economics* 16: 249–267.
- Becker, G. (1965) Theory of the Allocation of Time. *Economic Journal* 75: 493–517.
- Becker, G. (1974) A Theory of Social Interactions. *Journal of Political Economy* 82:6 1063–1093.
- Becker, G. (1981) *A Treatise in the Family*. Cambridge., Mass., USA.: Harvard University Press.
- Becker, G., and N. Tomes (1976) Child Endowment and Quantity and Quality of Children. *Journal of Political Economy* 84:4 Part II S143–S162.
- Becker, G., and N. Tomes (1979) An Equilibrium Theory of the Distribution of Income and Intergenerational Mobility. *Journal of Political Economy*. December.
- Behrman, J., and A. Deolalikar (1990) The Intrahousehold Demand for Nutrients in Rural South India: Individual Estimates, Fixed Effects and Permanent Income. *The Journal of Human Resources* 25:4 665–696.
- Behrman, J., R. Pollak., and P. Taubman (1982) Parental Preferences and Provision for Progeny. *Journal of Political Economy* 90:1 52–75.
- Behrman, Jere R. (1988) Intrahousehold Allocation of Nutrients in Rural India: Are Boys Favoured? Do Parents Exhibit Inequality Aversion. *Oxford Economic Papers*. 40: 32–54.
- Behrman, Jere R. (1988a) Nutrition, Health, Birth Order and Seasonality: Intrahousehold Allocation among Children in Rural India. *Journal of Development Economics* 28: 43–62.
- Behrman, Jere R. (1994) Intra-family Distribution in Developing Countries. *The Pakistan Development Review* 33:3 253–296.
- Bilqees, F., and S. Hamid (1989) Lack of Education and Employment Patterns of Poor Urban Women in Rawalpindi City. *The Pakistan Development Review* 30:4.
- Carol, Levin, Katherine Ralston, and Lawrence Haddad (1993) Intrahousehold-Related Policy Research: Implications for Data Collection. In Joachim Von Braun and Detlev Puetz (ed) *Data Needs for Food Policy in Developing Countries: New Directions for Household Surveys*. Washington. D.C.: International Food Policy Research Institute.
- Carter, M. R., and E. G. Katz (1997) Separate Spheres and Conjugal Contracts: Understanding the Impact of Gender-Biased Development. In Haddad, L., J. Hoddinott and H. Alderman (1997) (ed) *Intrahousehold Resource Allocation in Developing Countries: Models, Methods and Policy*. Baltimore: Johns Hopkins University Press.

- Chaudhary, M. G., and Z. Khan. (1987) *Female Labour Force Participation Rates in Rural Pakistan: Some Fundamental Explanations and Policy Implications* 26:4 687–698.
- Chen, L., F. Huq, and S. D'Souza (1981) Sex Bias in the Family Allocations of Food and Health Care in Rural Bangladesh. *Population and Development Review* 7:1 55–70.
- Chiappori, P. A. (1988) Rational Household Labour Supply. *Econometrica* 56:1 63–89.
- Chiappori, P. A. (1992) Collective Labour Supply and Welfare. *Journal of Political Economy* 100:3 437–467.
- Chiappori, P. A. (1993) *Traditional Versus Collective Models of Household Behaviour: What Can Data Tell Us?* Paris: Département et Laboratoire d'Économie Théorique et Appliquée. Mimeo.
- De Tray, Dennis (1984) Son Preference in Pakistan: An Analysis of Intentions vs. Behaviour. *Research in Population Economics* 5: 185–200.
- Deaton, Angus (1989) Looking for Boy-Girl Discrimination in Household Expenditure Data. *The World Bank Economic Review* 3:1 1–15.
- Deaton, Angus (1997) *The Analysis of Household Surveys: A Microeconomic Approach to Development Policy*. Baltimore: Johns Hopkins University Press.
- Evenson, R., B. Popkin, and E. King-Quizer (1979) *Nutrition, Work, and Demographic Behaviour in rural Philippine Households*. Economic Growth Centre. Discussion paper 308. New Haven, Conn. NSA.: Yale University.
- FAO (1997) *Gender and Participation in Agricultural Development Planning: Lessons from Pakistan*. Food and Agriculture Organisation of the United Nations. Rome.
- Farooqui, M. N. I. (1994) Interspousal Communication in Family Planning in Pakistan. *The Pakistan Development Review* 33:4.
- Folbre, N. (1997) Extrafamily Influences on Intrafamily Inequality. In Haddad, L., J. Hoddinot and H. Alderman (1997) (ed) *Intrahousehold Resource Allocation in Developing Countries: Models, Methods and Policy*. Baltimore: Johns Hopkins University Press.
- Gerold, M. Agnes. (1987) Rigid and flexibility Division of labour and the use of female labour force: An empirical investigation in northern Pakistan. *The Journal of Development Studies* 111.
- Haddad, L., and R. Kanbur (1990) How Serious is the Neglect of Intrahousehold Inequality. *Economic Journal* 100:402 866–881.
- Haddad, L., J. Hoddinot, and H. Alderman (1994) Intrahousehold Resource Allocation: An Overview. Policy Research Department. Poverty and Human Resource Division. The World Bank. Washington. D. C. (Policy Research Working Paper 1255.)

- Haddad, L., J. Hoddinott, and H. Alderman (1997) (ed) *Intrahousehold Resource Allocation in Developing Countries: Models, Methods and Policy*. Baltimore: Johns Hopkins University Press.
- Hakim, Abdul (1995) Desire For no More Children And Contraceptive Use in Pakistan. *The Pakistan Development Review* 34:4.
- Hamid, Shahnaz (1991) Determinants of the Supply of Women in the Labour Market: A Micro-Analysis. *The Pakistan Development Review* 30:4.
- Haq, Mahbub ul (1997) *Human Development in South Asia. 1997*. Human Development Centre. Islamabad. Oxford University Press.
- Jafri, Younus S. M. (1999) Assessing Poverty in Pakistan. In Mahbabul Haq Centre for Human Development *A Profile of Poverty in Pakistan*. Islamabad: Mahbabul Haq Centre for Human Development
- Kanbur, R. (1991) Linear Expenditure System, Children as Public Goods, and Intrahousehold Inequality. Coventry UK Development Economics Research Centre. University of Warwick. (Discussion Paper 104.)
- Kapteyn, A., and P. Kooreman (1992) Household Labour Supply: What Kind of Data Can Tell How Many Decision maker there are? *European Economic Review* 36: 379–390.
- Kazi, S., and B. Raza (1991) Duality of Female Employment in Pakistan. *The Pakistan Development Review* 30:4.
- Kazi, Shahnaz, and Faiz Bilquees (1992) Final Report of the Sub-Committee on Women and Development”. Report prepared by the *Committee on Economic and Social Well-being* for the Eighth Five Year Plan. Pakistan Institute of Development Economics. Islamabad.
- Kazi, Shahnaz, and Zeba Sathar (1996) Gender and Development: Searching for Explanation for Fertility Changes in Rural Pakistan”. Paper prepared for the Seminar on *Comparative perspectives on Fertility Transition in South Asia*. Rawalpindi, Islamabad. Pakistan.
- Khan, M. Ali, and Ismail Sirageldin (1981) Intrafamily Interaction and Desired Additional Fertility in Pakistan: A Simultaneous Equation Model with Dichotomous Dependent Variables. *The Pakistan Development Review* 20:1.
- Khan, M. Ali, and Ismail Sirageldin (1983) How Meaningful are Statements about the Desired Number of Additional Children? An Analysis of 1968 Pakistani Data. *The Pakistan Development Review* 22:1.
- Khan, M. Ali, and S. J. Malik (1993) *Son Preference, Interspousal Communication, and Fatalistic Attitudes in Desired Fertility in Pakistan*. International Food Policy Research Institute. Washington, D. C.
- Khan, M. Ali., and Ismail Sirageldin (1977) Son Preference and the Demand for Additional Children. *Demography* 14: 481–495.
- Khan, S. A., and F. Bilquees (1976) The Attitude, Environment and Activities of Rural Economy: Study of Jhok Sayal. Pakistan Institute of Development Economics. Islamabad. (Research Report No. 98.)

- Khan, S. R., R. Siddiqui, and F. Hussain (1987) An Analysis of School level Dropout Rates and Output in Pakistan. *Pakistan Economic and Social Review* 25:1.
- Khan, Shahrukh Rafi, Sajid Kazmi, and Zahid Ahmed (1996) Structural Adjustment and Food Security in Pakistan: An Aggregate Analysis. Paper presented at the annual Sustainable Development Conference. SDPI. Islamabad.
- Koorman, P., and A. Kapteyn (1990) On the Empirical Implementation of Some Game Theoretic Models of Household Labour Supply. *Journal of Human Resources*. 25:4 584–598.
- Kozel, Valerie, and Harold Alderman (1990) Factors Determining Work Participation and Labour Supply Decisions in Pakistan's Urban Areas. *The Pakistan Development Review* 29: 11–18.
- Leuthold, J. (1968) An Empirical Study of Formula Resource Transfers and the Work Decision of the Poor. *Journal of Human Resources* 3: 312–323.
- Levin, Carol, K. Ralston, and L. Haddad (1993) Intrahousehold-Related Policy Research: Implications for Data Collection. In Joachim Von Braun and Detlev Puetz (ed) *Data Needs for Food Policy in Developing Countries*. Washington, D.C.: International Food Policy Research Institute.
- Mahmood, Naushin, and Durr-e-Nayab (1999) Gender Dimensions of Demographic Change in Pakistan. *The Pakistan Development Review* 37:4.
- Mahmood, Naushin, and Karin Ringheim (1996) Factors Affecting Contraceptive Use in Pakistan. *The Pakistan Development Review* 35:1.
- Mahmood, Naushin, and M. A. Mahmood (1995) Gender Differences in Child Health-care Practices: Evidence from Pakistan Demographic and Health Survey, 1990-91. *The Pakistan Development Review* 34:4.
- Malik, N., and S. J. Malik (1993) Reporting on the World Nutrition Situation: The Case of Pakistan. In *Second Report of World Nutrition Situation*. Vol. II. UN/ACC/SCN Geneva. March.
- Malik, S. J. (1994) An Analysis of the Issues in Food Security. A Background report prepared for the World Bank as Input into the Pakistan Nutrition Project.
- Malik, S. J. (1994a) *Poverty in Pakistan, 1984-85, 1987-88 and 1990-91*. International Food Policy Research Institute. Washington D. C.
- Malik, S. J. (1999) *Poverty and Rural Credit: The Case of Pakistan*. Islamabad: Pakistan Institute of Development Economics.
- Manser, M., and M. Brown (1980) Marriage and Household Decision Making: A Bargaining Analysis. *International Economic Review* 21:1 31–44.
- McElroy, M. B. (1990) Nash-Bargained Household Decisions: Reply. *International Economic Review* 31:1 37–242.
- McElroy, M. B., and M. J. Horney (1981) Nash-Bargained Household Decisions: Towards a Generalisation of the Theory of Demand. *International Economic Review* 22:2 333–349.

- Miller, B. D. (1984) Daughter Neglect, Women's Work and Marriage: Pakistan and Bangladesh Compared. *Medical Anthropology* 8:2 109–126.
- Mukhtar, Hanid, and Eshya M. Mukhtar (1989) Resource Theory and the Distribution of Power between Husband and Wife: A Critical Evaluation. *The Pakistan Development Review* 28:4.
- Mumtaz, Soofia, and Anjum Fatima (1992) The Cultural Conception and Structural Perpetuation of Female Subordination: An Examination of Gender Relations among the Population of the Chalt-Chaprote Community in the Nagar Valley of Northern Pakistan. *The Pakistan Development Review* 31:4.
- Nasreen, R., A. Rehman Qazi, and Kishwar Ijaz (1996) Role of Rural Women in Decision Making in Various Family Affairs. *Journal of Rural Development & Administration* 28:3.
- National Institute of Population Studies (1992) *Pakistan Demographic and Health Survey 1990-91*. National Institute of Population Studies, Pakistan, and IRD/Macro International Inc. Columbia, Maryland, USA.
- Nazli, Hina (1998) Intrahousehold Resource Allocation, Role of Gender, and Rural Household Food Security: Issues from Pakistan. Paper presented in the Technical Consultation on *Intrahousehold dynamics and Rural Household Food Security*. FAO (RAP). Bangkok.
- Pakistan Medical Research Council (1996) National Health Survey of Pakistan 1990-94: Health Profile of the People of Pakistan. PMRC. Islamabad.
- Pakistan, Government of (1977) *National Nutrition Survey 1976-77*. Nutrition Division. National Institute of Health. Islamabad.
- Pakistan, Government of (1988) *National Nutrition Survey 1985-87*. Nutrition Division. National Institute of Health. Islamabad.
- Pakistan, Government of (1992-93) *Household Income and Expenditure Survey 1992-93*. Federal Bureau of Statistics, Islamabad.
- Pakistan, Government of (1993-94) *Labour Force Survey*. Federal Bureau of Statistics. Statistics Division. Islamabad.
- Pakistan, Government of (1997) *Pakistan Economic Survey 1996-97*. Finance Division. Islamabad.
- Pakistan, Government of (1997) *Pakistan Integrated Household Survey 1996-97*. Federal Bureau of Statistics, Islamabad.
- Pitt, Mark. M., M. R. Rosenzweig, and M. N. Hassan (1990) Productivity, Health, and Inequality in the Intrahousehold Distribution of Food in Low Income Countries. *The American Economic Review* 80:5 1139–1156.
- Quisumbing, A. R., L. R. Brown, H. S. Feldstein, L. Haddad, and C. Pena (1995) *Women: The Key to Food Security*. Food Policy Report. International Food Policy Research Institute. Washington D. C.
- Rafiq, Muhammad (1996) On Analysing Educational Waste in the Punjab Schools. *The Pakistan Development Review* 35:4.

- Riaz, Shahnaz A. (1994) *On Educating Rural Females in Pakistan*. International Food Policy Research Institute. Washington, D.C.
- Rosenzweig, M. R., and K. I. Wolpin (1988) Heterogeneity, Intrafamily Distribution, and Child Health. *The Journal of Human Resources* 23:4 437–461.
- Rosenzweig, M., and T. P. Schultz (1982) Market Opportunities, Genetic Endowments, and Intrafamily Resource Distribution: Child Survival in rural India. *American Economic Review* 72:4 803–815.
- Rukanuddin, A. R. (1982) Infant Child Mortality and Son Preference as Factors Influencing Fertility in Pakistan. *The Pakistan Development Review* 21:4.
- Sabir, Farid G., Joseph G. Nagy, and C. del Castillo (1989) Women's Participation in the High Elevation Rainfed Farming System of Balochistan, Pakistan. Arid Zone Research Institute. Pakistan Agriculture Research Council. Quetta. (Research Report No. 47.)
- Sabot, Richard (1989) Human Capital Accumulation in Post Green Revolution Rural Pakistan: Some Preliminary Results. *The Pakistan Development Review* 28:4 413–416.
- Sabot, Richard (1992) Human Capital Accumulation in Post Green Revolution Rural Pakistan: A Progress Report. *The Pakistan Development Review* 31:4. 449–490.
- Sarmad, K., F. Hussain, and G. M. Zahid, (1989) Some Issues in the Development of Pakistan's Education Sector: In Hyder, S. N. (ed) (1989) *The Regional Workshop on Development and Utilisation of Human Resources: Issues and Policies*. Pakistan Manpower Institute, Islamabad.
- Sathar, Z., and S. Kazi (1997) *Women's Autonomy, Livelihood and Fertility: A Study of Rural Punjab*. Pakistan Institute of Development Economics. Islamabad.
- Sathar, Zeba A. (1984) Does Female Education Affect Fertility Behaviour in Pakistan. *The Pakistan Development Review* 23:4.
- Sathar, Zeba A. (1987) Seeking Explanation for High Levels of Infant Mortality in Pakistan. *The Pakistan Development Review* 26:1.
- Sathar, Zeba A. (1987) Sex Differential in Mortality: A Corollary of Son Preference. *The Pakistan Development Review* 26:4 555–568.
- Sathar, Zeba A., and Sonalde Desai (1996) Work Pattern in Pakistan: Intersections Between Gender, Family and Class. Research Division. The Population Council. New York. (Working Paper No. 90.)
- Sathar, Zeba. A. and Cynthia B. Lloyd. (1993). "Who Gets Primary Schooling in Pakistan: Inequalities Among and Within Families". Working Paper No. 52. Research Division. The Population Council. New York.
- Sather, Z., and S. Kazi (1997) *Women's Autonomy, Livelihood and Fertility: A case of Rural Punjab*. Pakistan Institute of Development Economics. Islamabad.

- Sawada, Yausyuki (1997) Human Capital Investment in Pakistan: Implications of Micro-Evidence from Rural Pakistan. *The Pakistan Development Review* 36:4.
- Senauer, B., M. Garcia, and E. Jacinto (1988) Determinants of the Intrahousehold Allocation of Food in Rural Philippines. *American Journal of Agriculture Economics* 70:1 170–180.
- Singh, I., L. Squire, and J. Strauss (1986) (ed) *Agriculture Household Models: Extensions, Applications and Policy*. Baltimore: Johns Hopkins University Press.
- Sultana, Nargis, Hina Nazli, and Sohail J. Malik (1994) Determinants of Female Time Allocation in Selected Districts of Pakistan. *The Pakistan Development Review* 33:4.
- Thomas, D. (1990) Intra-household Resource Allocation: An Inferential Approach. *Journal of Human Resources* 25: 635–664.
- Thomas, D. (1991) Gender Differences in Household Resource Allocation. The World Bank. Washington, D.C. (LSMS Working Paper No. 79.)
- Ulph, D. (1988) A General Non-cooperative Nash Model of Household Consumption Behaviour. Bristol, U. K.: University of Bristol, Department of Economics. (Working paper.)
- UNICEF (1998) Children and Women in Pakistan: A Situation Analysis. UNICEF Pakistan.
- United Nations Development Program (1995, 1997) *Human Development Report*, New York: Oxford University Press.
- Wooley, F. (1988) *A Non-cooperative Model of Family Decision Making*. London: London School of Economics. (Discussion Paper No. TIDI/125.)
- World Bank (1990) *Women in Pakistan: An Economic and Social Strategy*. A World Bank Country Study. Washington, D. C.
- Zafar, M. Iqbal (1996) Husband-wife Roles as Correlates of Contraceptive and Fertility Behaviour. *The Pakistan Development Review* 35:2.

ABSTRACT

The available literature in Pakistan is generally lacking in a critical examination of the issues related to intrahousehold resource allocation. This black box is due largely to the lack of individual-level data on dietary intake, anthropometric measures, decision making, time allocation, etc. Such an examination of the intra-household dynamics would shed light on how resources are generated, controlled and distributed in a household and help in the effective design and implementation of suitable policies. This study identifies the data gaps and emphasises the immediate need for a research agenda focusing on the fuller understanding of the intra-household dynamics. Data needs are outlined and a conceptual framework of incorporating gender concerns in the analyses of intrahousehold resource allocation and household food security is presented. Suggestions are made to collect both quantitative as well as qualitative individual level data on various social, economic, demographic, and anthropometric variables. The data set thus generated would give a picture of the household resource base, household endowments, gender relations, and inter- and intra-household resource allocations that are necessary for the formulation and implementation of suitable and effective policies for benefiting the vulnerable groups.