

Impact of education on household food security and coping strategies of women living in urban slums

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Abstract

Food security is a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life. Women play a decisive role in, household and national food security. Women also try to ensure that all members of family receive adequate share of food. The study population includes all economically active women aged 18-60 years living in urban slums. A self-administered questionnaire was framed and used as a tool to collect the information. Science (SPSS version 10.0) was used to generate percentage and to carry out bivariate (cross tabulation) analysis. The study revealed that there exists a significant relationship between educational level of women and household food security. It was found that food consumes more than half of the households' total income. Households' most common coping strategies adopted include: reducing food consumption, sometimes remaining hungry, accessing credit, taking loan to buy foods, sending their household member to eat elsewhere and removing children from school & reducing expenditures on essential requirements. Overall, the food insecurity exists in the study. Most households had adopted both long and short term strategies. The most popular coping strategies were to rely on less preferred foods, borrowing food from friends or relatives and purchasing food on credit.

Keywords: education, food security, coping strategies, urban slums

Introduction

A decade on from the first World Food Summit held in Rome, 1996, the problem of food and nutrition insecurity still remains a great threat to a large number of poor and vulnerable people across the world. Eradicating world hunger and ensuring food security worldwide is a major public health priority. The United Nations World Food Programme (WFP) estimates that 795 million people globally, or one in nine, are considered food insecure (WFP, 2015). According to the World Health Organization (WHO), food security includes food availability and use and exists when populations "have access to sufficient, safe, nutritious food to maintain a healthy and active life" (WHO, 2015). Today the world has enough food to feed everyone, yet an estimated 854 million people worldwide are still undernourished (FAO 2006) [6].

Food security comprises two main requirements assuring the availability of food; and assuring the ability of households to acquire food through income. Food security is defined as "access by all people at all times to enough food for an active, healthy life" (World Bank, 1986). Access to food should also encompass acquisition of foods that is nutritionally adequate, safe and in socially acceptable ways (Life Science Research Office, 1990). At the household level, the definition of food security has also been extended to include related concepts of accessibility, sufficiency, security and sustainability (Gittelsohn *et al.*, 1998; Maxwell & Frankenberger, 1992) [10]. Food security is a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life (FAO, 2002).

The broad area of food security may be usefully disaggregated into questions relating to adequacy of food availability and access. This approach focuses on conditions necessary to achieve food security and highlights the need to consider both the nature of the food itself and the range of factors determining security of food availability and access.

Role of Women in Food Security

Women play a decisive role in, household and national food security. Women also try to ensure that all members of family receive adequate share of food, yet their involvement in productive activities related to livestock and agriculture is undervalued and regarded as routine housework (Hassan, 2008; Mansoor *et al.*, 2012) [16].

Women are left to grow food for the children and family on the poorest land, with the poorest tools, the poorest knowledge and no access to credit or training with which to improve their skills or the soil they are farming. They allocate their time to food production and reproduction. In food 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 remains un-rewarded (World Bank, 2009). Women in developing countries play significant roles in maintaining the three pillars of food security- food production, economic access to available food, and nutritional security. But they play these roles in the face of enormous social, cultural and economic constraints. However, the place of gender as a fundamental issue in assuring food security both at national, household and individual levels cannot be

overemphasized. This is because increasing attention is now being paid to the gender dimension of poverty and development particularly in relation to the role of women in agricultural processes.

In construction-roads, mud-houses, cattle sheds and in all the construction work done in urban areas, household and village and cottage industries like weaning, coir, cashew and bidi industries, poultries, village dairies, basket making, knitting and dyeing etc., rural women have some specialized skills, and as such their economic participation cannot be overlooked. Besides, rural women have also been seen productively engaged in some trade business activities. Although in all such activities they are earning very little, but their economic participation cannot be underestimated. Fish trade, vegetable and fruit vending, collection and selling of grass, firewood, cow dung cake making, picking and selling flowers, processing and selling of dairy products, specially curd, ghee and “khoya” etc., are such activities in which most of the rural women are productively engaged. Women are actively engaged in production as workers and as small traders and in household industrial activities. In some spheres they have a monopoly in farming and household industries. It has generally been argued that female-headed households are more vulnerable to food insecurity and non-income aspects of poverty (Kabeer, 1990) [14]. McLanahan (1985) [20] finds that children in female-headed households have a lower rate of socio-economic attainment than children in the male-headed ones. If female-headed households utilize all available resources including engaging school-going children in income generating activities to survive, then they end up with low education level attainments and, thus, the probability of transmitting poverty and food insecurity to the next generation is higher.

Income in the hands of women tends to be associated with an enhancement in the family, particularly the welfare of children. Income in the hands of men, however, appears to increase the share of household expenditure on items consumed mainly by men (Davies, 1993) [4].

Throughout the world, women are the principal guarantors of nutrition, food safety and quality at the household and community levels. They are the ones who often produce, purchase, handle, prepare and serve food to families and community institutions.

Women are also at a higher risk of food insecurity. For example, in one study among children in Brazil, females were

2.21 times as likely to be food insecure than males (de Souza Bittencourt *et al.*, 2013); in another study among adolescents in Southwest Ethiopia, being female was a significant independent predictor of food insecurity (Belachew *et al.*, 2012) [16].

Despite the significant contribution of women towards food security, development interventions aiming to improve access to food often bypass women. They give little attention to designing programmes that suit the needs, education, and cultural backgrounds of women or their aspirations for improving their economic and social conditions (Nadine, 1989) [21].

Lynn (2001) [17] observes that poverty is a major cause of food insecurity. The purchasing power of an individual affects food security as much as the physical availability of food. In both developed and undeveloped countries, hunger stems simultaneously from economic policy structures and customs that are ineffective and morally reprehensible conduct and corruption. Socio-cultural factors can also increase hunger and the risk of malnutrition. Food taboos, lack of status and influence by women, absence of training of women in nutrition, widespread illiteracy, as well as insecurity are all socio-cultural factors that can cause malnutrition and poverty. However, many food insecurity researchers conclude that food insecurity is a result of insufficient income (Poppendieck, 1999; Pringle, 2013) [22, 23].

The present study focusses on analysis of household food security and coping strategies of women living in urban slum

Material and Methods

The study population includes all economically active women aged 18-60 years presently living in slum area of Saidakadal & Dal Basti at Nishat, South Western Srinagar. Both the areas are around at Dal Lake. It is impossible to cover all the elements in the study population due to the huge amount required and labour intensity. As a result of this, four Mohallas were chosen purposively namely chinga mohalla & Sultan mohalla, Dood Mohalla and Laskar Mohalla. After a thorough and detailed study a self-administered questionnaire was framed and used as a tool to collect the information. In addition to questionnaire. The questionnaires were thoroughly scrutinized for consistency errors in order to assess the integrity of the data. The statistical package for the social science (SPSS version 10.0) was used to generate percentage and to carry out bivariate (cross tabulation) analysed.

Results and Discussion

Table1: Perception regarding food availability as per Educational Status

Food Availability	Educational Status									
	Illiterate (N=49)		Primary (N=21)		Middle (N=19)		Matric & Above (N=15)		Total Literate (N=55)	
	F	%	F	%	F	%	F	%	F	%
Do you feel price of food items are high										
Yes	48	98.0	21	100.0	19	100.0	15	100.0	55	100.0
No	1	2.0	0	0.0	0	0.0	0	0.0	0	0.0
Are you worried about getting food										
Yes	49	100.0	21	100.0	19	100.0	15	100.0	55	100.0
No	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Do you Shift to low priced food										

Yes	41	83.7	19	90.5	11	57.9	4	26.7	34	61.8
No	8	16.3	2	9.5	8	42.1	11	73.3	21	38.2
Do you borrow money from your relatives to buy food										
Yes	42	85.7	18	85.7	12	63.2	6	40.0	36	65.45
No	7	14.3	3	14.3	7	36.8	9	60.0	19	34.54

The table highlights that majority of the respondents 98%(n=48) who had no formal education, and around 55% (n=55) literate women felt the price of food items as high. The above table also shows all the respondents irrespective of their educational status were worried about getting food. Most of the literate women 55% (n=55) agreed that they have shifted to low priced foods as compared to their illiterate counterparts

and about 85.7%(n=42) illiterate women borrowed money from relatives to buy food. Similar results are corroborated by Leslie (1987), Quisumbing (1996) [24] and Quisumbing and Meinzen-Dick (2001) [25] who reported that significant association exists between the level of education & shifting to low priced food items.

Table 2: Perception regarding balanced meal as per Educational status

Perception regarding balanced meal	Educational Status									
	Illiterate (N=49)		Primary (N=21)		Middle (N=19)		Matric & Above (N=15)		Total (N=55)	
	F	%	F	%	F	%	F	%	F	%
Do you take a balanced meal										
Yes	6	12.2	0	0.0	4	21.1	9	60.0	13	23.63
No	43	87.8	21	100.0	15	78.9	6	40.0	42	76.36
Do you cut the size of your meal due to lack of resources										
Yes	42	85.7	18	85.7	15	78.9	8	53.3	41	74.55
No	7	14.3	3	14.3	4	21.1	7	46.7	14	25.45
Do you Give/observe Preference for meal distribution										
Yes	31	63.3	9	42.9	5	26.3	1	6.7	15	27.27
No	18	36.7	12	57.1	14	73.7	14	93.3	40	72.72
Do you take fewer meals per day due to lack of resources										
Yes	42	85.7	12	57.1	8	42.1	9	60.0	29	52.73
No	7	14.3	9	42.9	11	57.9	6	40.0	26	47.27
Do you reduce diet of children										
Yes	38	77.6	14	66.7	7	36.8	1	6.7	22	40.0
No	11	22.4	7	33.3	12	63.2	14	93.3	33	60.0
Do you consume tea without milk										
Yes	38	77.6	17	81.0	11	57.9	1	6.7	29	52.73
No	11	22.4	4	19.0	8	42.1	14	93.3	26	47.27
Do you remain hungry whole day at times.										
Yes	32	65.3	13	61.9	9	47.4	1	6.7	23	41.82
No	17	34.7	8	38.1	10	52.6	14	93.3	32	58.18

The above table reflects that most of the literate women consume balanced meals 23.63%(n=13) as compared to illiterate women 12.2%(n=6). Most of the respondents irrespective of educational status cut the size of the meals due to lack of resources illiterates 85.7%(n=42) and 74.55%(f=41) respectively. Not surprisingly, majority of illiterate women 63.3%(f=31) gave preference to men and sons in the family during meal distribution. When asked about reduction of diet of children, mostly illiterate women answered affirmatively

77.6%(n=38). Women from both section consumed tea without milk, and 65.3%(n=32) and 41.82%(n=32) from illiterate and literate group both confirmed of remaining hungry whole day at times. Various reports have also confirmed women are at a higher risk of food insecurity, in a study among children in Brazil, females were 2.21 times as likely to be food insecure than males (de Souza Bittencourt *et al.*, 2013)

Table 3: Reducing expensing strategies to cope up food security as per Educational status

Food Security	Educational Status									
	Illiterate (N=49)		Primary (N=21)		Middle (N=19)		Matric & Above (N=15)		Total(N=104)	
	F	%	F	%	F	%	F	%	F	%
Did you remove children from school										
Yes	31	63.3	7	33.3	5	26.3	1	6.7	13	23.64
No	18	36.7	14	66.7	14	73.7	14	93.3	42	76.36
Do you reduce expenditure on children’s education										
Yes	34	69.4	14	66.7	6	31.6	2	13.3	22	40.0
No	15	30.6	7	33.3	13	68.4	13	86.7	33	60.0
Do you reduce food variations in meals										
Yes	17	34.7	9	42.9	6	31.6	4	26.7	19	34.55
No	32	65.3	12	57.1	13	68.4	11	73.3	36	65.45
Do you reduce fruit & Vegetable intake										
Yes	49	100.0	21	100.0	19	100.0	15	100.0	55	100.0
No	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Do you reduce expenditure of clothing										
Yes	49	100.0	21	100.0	19	100.0	15	100.0	55	100.0
No	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Do you reduce expenditure on medicines										
Yes	49	100.0	21	100.0	18	94.7	15	100.0	54	98.18
No	0	0.0	0	0.0	1	5.3	0	0.0	1	1.0
Do you reduce expenditures on marriages/social events										
Yes	49	100.0	21	100.0	19	100.0	15	100.0	55	100.0
No	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

The above table demonstrates that most of the illiterate women 63.3%(n=31) removed their children from school because of lack of resources and around 69.4%(n=34) reduced expenditure on children’s education, whereas, this practice is not so prevalent among literate women. A fair number of women from both illiterate and literate groups 34.7%(f=17) and 34.55%(f=19) respectively reported reduction in meal variation and fruit and vegetable intake. Cent percent women reported expenditure reduction on clothing and were dependent on donated clothes. In case of expenditure on medicines 100%(f=49) and 98.18%(f=54) women compromised and reduced the expenditure, and avail help

from some NGO’s and local dispensaries. All women reported that they reduce expenditure on marriage/social events, however it can’t be totally avoided, because of special cues and pressures which compels them to borrow money from relatives and neighbours. The above data reveals that a majority of the literate women do not remove children from school & do not compromise on children’s education. It indicates that the respondents place high value on education similar results are evidenced by Quisumbing and Meinzen-Dick (2001), King and Alderman (2001) who demonstrated that increasing women’s education is a key ingredient for women’s empowerment and household food security.

Table 4: Distribution of Respondents regarding income generating activities as per Educational status

Income generating activities	Educational Status									
	Illiterate (N=49)		Primary (N=21)		Middle (N=19)		Matric & Above (N=15)		Total (N=55)	
	F	%	F	%	F	%	F	%	F	%
Do you have a kitchen garden:										
Yes	4	8.2	1	4.8	03	15.78	12	80.0	16	29.09
No	45	91.8	20	95.2	16	84.22	3	20.0	39	70.90
Do you sell home grown vegetables:										
Yes	4	8.2	1	4.8	02	10.52	12	80.0	15	27.27
No	45	91.8	20	95.2	17	89.47	3	20.0	40	72.73
Do you preserve vegetables:										
Yes	35	71.4	11	52.3	12	63.15	15	100.0	38	69.09
No	14	28.6	10	47.62	7	36.84	0	0.0	17	30.90
Do you generate income from selling home grown and preserved vegetables :										
Yes	4	8.2	1	4.8	02	10.52	12	80.0	15	27.27
No	45	91.8	20	95.2	17	89.47	3	20.0	40	72.73
Do you help your husband in generating income										
Yes	39	79.6	17	81.0	15	36.8	13	6.7	45	81.81
No	10	20.4	4	19.0	04	63.2	02	93.3	10	18.18

The above table reflects the income generation steps adopted by women, most of the women have kitchen garden. A

majority of literate women 27.27%(f=15) sell home grown vegetables and all 8.2%(f=4) illiterate women who have

kitchen garden practice the same. Women from both sections preserved vegetables and around 27.7% (f=15) literate women generated income from it, which is higher than illiterate women (8.2%) (f=4). About 81.81% (f=45) of literate women provided supplementary income to their husbands, and a fair percentage of illiterate women too 79.6% (f=39) supported their

husbands, strengthening the fact that women play a crucial role in obtaining household food security. This observation is supported by literature, Dauda (2010) highlights that, women's education is an important factor in determining household food security.

Table 5: Distribution of Respondents regarding coping strategies as per Educational status

Coping strategies	Educational Status									
	Illiterate (N=49)		Primary (N=21)		Middle (N=19)		Matric & Above (N=15)		Total literates ((N=55)	
	F	%	F	%	F	%	F	%	F	%
Do you purchase household goods on credit										
Yes	36	73.5	20	95.2	14	73.7	14	93.3	48	87.27
No	13	26.5	1	4.8	5	26.3	1	6.7	07	12.73
Do you send household member to elsewhere										
Yes	28	57.1	16	76.2	9	47.4	10	66.7	35	63.64
No	21	42.9	5	23.8	10	52.6	5	33.3	20	36.37
Do you cook whatever food is available at home										
Yes	45	91.8	21	100.0	15	78.9	4	26.7	40	72.73
No	4	8.2	0	0.0	4	21.1	11	73.3	15	27.27
Do you avail medical treatment when situation gets worse										
Yes	49	100.0	21	100.0	19	100.0	15	100.0	55	100.0
No	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Do you take medicine on credit from drug store										
Yes	49	100.0	21	100.0	19	100.0	15	100.0	55	100.0
No	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Do you sell valuable materials (jeweller, etc.)										
Yes	41	83.7	19	90.5	10	52.6	3	20.0	32	58.18
No	8	16.3	2	9.5	9	47.4	12	80.0	23	41.81
Do you use savings										
Yes	49	100.0	21	100.0	19	100.0	15	100.0	55	100.0
No	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Do you depend on donations for a livelihood										
Yes	40	81.6	16	76.2	14	73.7	10	66.7	40	72.73
No	9	18.4	5	23.8	5	26.3	5	33.3	15	27.27

The above result demonstrates coping strategies of women to cope with the food insecurity. Most of the women from both sections admitted that they purchase household goods on credit 87.27% (f=48) literate and 73.55% (f=36) illiterate women, and send one of their children to their maternal home. All the women avail medical treatment when situation gets worse,

however medicine too is bought on credit and sell their valuables at the time of emergency. Most of the women rely on help and donations from their relatives. These strategies are helpful to sustain their lives but not to make them food secure (Chhetri and Maharjan, 2006) [3], Basukuba *et al.* (2007).

Table6: Distribution of Respondents regarding skills as per Educational status

Skills	Educational Status									
	Illiterate (N=49)		Primary (N=21)		Middle (N=19)		Matric & Above (N=15)		Total ((N=55)	
	F	%	F	%	F	%	F	%	F	%
Do you have skills										
Yes	09	18.36	12	57.14	12	63.15	09	60	33	60
No	40	81.64	09	42.86	07	36.85	06	40	22	40
Kinds of skills:										
Embroidery	03	33.34	04	33.33	04	33.33	02	22.2	10	30.30
Tailoring	02	22.22	03	25	03	25	04	44.44	10	30.30
Weaving	02	22.22	03	25	03	25	0	0	06	18.19
Knitting	02	22.22	02	16.67	02	16.67	03	33.33	07	21.21

The above table reflects that 60% (f=33) of the literate women had one or another skill, whereas, only 18.36% (f=09) illiterate women had skills, therefore, supporting the findings of Olumakaiye and Ajayi (2006) who argued that educational

level attained by women had a fairly high degree of relationship with food and nutrition provision for household members for food security.

Table 7: Distribution of Respondents regarding their role in household food security as per Educational status

Role of women in household food security	Educational Status									
	Illiterate (N=49)		Primary (N=21)		Middle (N=19)		Matric & Above (N=15)		Total ((N=55)	
	F	%	F	%	F	%	F	%	F	%
Do you process food at home										
Yes	49	100.0	21	100.0	19	100.0	15	100.0	55	100.0
No	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Do you buy low priced food items										
Yes	49	100.0	21	100.0	19	100.	15	100.0	55	100.0
No	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Do you know about improved processed techniques										
Yes	30	61.23	18	85.7	18	94.7	11	73.3	47	85.45
No	19	38.77	3	14.3	1	5.3	4	26.7	8	14.45

The above table reveals and highlights the role of women in achieving household food security, when asked about processing foods at home and buying low priced food items, all women replied affirmatively. Most of the literate women 85.45%(f=47) had knowledge about improved processing technique as compared to illiterate women, supporting the results of Kennedy and Peters, 1992 who reported that women's access to education and income is also a determining factor in levels of nutrition and child health.

Conclusion

The study revealed that there exists a significant relationship between educational level of women and household food security. This study found that food consumes more than half of the households' total income. Households' most common coping strategies adopted include: reducing food consumption, sometimes remaining hungry, accessing credit, taking loan to buy foods, sending their household member to eat elsewhere and removing children from school& reducing expenditures on essential requirements. The major problem faced by the women is lack of equipment for processing activities, insufficient food items and lack of electricity.

Significant association between education and food security indicate that empowering women through education is the key to achieve intra-household food and nutrition security. The data also concluded that education is inevitable to ensure better and healthy food for the family members.

Access to food is a basic pillar of food security but the results showed that very few women knew about the balanced diet. When we explained the concept of balanced diet, the immediate response was that, "it is out of reach for us, because of high prices of fruits and meat". Gender discrimination in food distribution was also found, as most of the respondent agreed that the males (either children or adults) are given preference while distributing food at the household level. In the case of food shortages, the women of the household have to cut the size of meals, skip one meal and eat less preferred (cheap) food.

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