



RESEARCH PAPER

Women Participation in Environmental Management in the Urban and Rural Areas of District Lahore

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ABSTRACT

Present study was conducted to investigate the role of women in controlling the environmental pollution and compare the awareness level of urban and rural women about water, food and sanitation management. The data was collected through a questionnaire in the Urdu language to make it easier to understand for respondents. Sample included 200 women (100 rural and 100 urban). Analysis of data revealed that Modern resources were more easily available to urban women than women of rural area. However, load shedding was reported as a major challenge by the women of both types of localities as electric pumps could not be used regularly without electricity. It was recommended that proper awareness campaigns should be launched by the government on water, food and waste management in both rural and urban setting.

Introduction

Environmental management and gender are the hot and significant issues of this century. Women consciousness of environment is crucial for proper natural resource management because unpolluted water, dirt-free air, and sanitation in homes and surroundings are the basic needs to live a healthy life. Australia's Environment Protection Act (1974) defined environment as "all aspects of the surroundings of the human beings weather affecting them as individuals and social groups". Environment could also be defined as "various things of a physical and biological nature surrounding human beings, these could be natural and manmade" (Rex, 1992). Pakistan, like other countries of the world is also concerned about environmental issues, so according to the

Pakistan Environmental Protection Act, 1997, following are the meanings of environment:

- a) Air, Water and land;
- b) All layers of atmosphere;
- c) All organic and inorganic matters and living organisms;
- d) The ecosystems and ecological relationships;
- e) Building facilities like roads and structures;
- f) All social and economic conditions affecting community life;
- g) The inter relationship between any of the factor in sub clause (a) to (f).

Women are directly linked to all the environmental factors and as housekeepers they can manage their activities in best way to protect future generations from environmental problems. According to the Momsen (2004) at the end of twentieth century, the worst threats faced by the world were ecological destruction, hunger and poverty in third world countries, and the danger of war. Women comprise the half of the population of the world. In this way they are the key contributors in the management of environment for sustainable development. If they are sensitive about their environment, in which they are living, they would be able to play significant role for not only protecting their immediate home environment but they would also be beneficial for their community, society and nation. In this way awareness is the key to open the doors of safe living place for future generations.

As far as the definitions of environmental management are concerned Myerson & Rydin (1996) described that environmental management is the administration of human activities and it relates to the entire range of living and non living factors that influence life on the earth and their interaction. They further elaborate the concept as a care applied to localities, regions, catchments, natural resources, areas of high conservation values, cleaner processing, and recycling systems, waste handling and disposal, pollution control, landscaping, and enhancement of amenities. Generally, efficient administration of environmental policies and standards is meant by this and it involves the identification of objectives, the adoption of appropriate mitigation measures, the protection of eco system, the enhancement of the quality of life for those affected, and the minimization of environment cost. The women around the world can play vital role in

sensitizing people about environmental issues and concerns. It is also considered that women are the best experts and managers of environment. Bridotti (1994) emphasize the need of women participation in policy making and said that women's participation is not to be restricted in household matters but also in the policy making and decision making level. If they do not participate in policy decisions, policies would not be gender sensitive.

According to a study conducted by Aye (2018) in Myanmar it was concluded that women have played an important role in reducing resource use, reusing and recycling resources to minimize waste and excessive consumption. Bradoitte (1994) highlighted that twelve critical areas were the main concern of fourth world conference for women in Beijing platform for action, 1995, in which women and environment was one of them.

The role and participation of women in the environmental protection can be well described under the following factors of environmental management:

- Women and food management
- Women and water management
- Women's role in sanitation and waste management
- Women and environmental health

Women as house managers generally are involved with food matters, collecting food from fields, forests, harvesting, cooking, preservation etc. study by Choudhary and Parthasarathy (2007) found that women work for longer hours than men and contribute in the nutritional security of their family. Women's livelihood strategies, and their support and means of ensuring food security are diverse and complex, form cultivating field crops to live stock rearing, home gardening, gathering etc. They further said that in Southeast Asia, women provide up to 90% of the labour in rice cultivation.

Cranny (2001) provided the information on food preservation by rural women and said that women easily preserve the food without refrigerators and other modern technology. They know best natural methods to preserve food such as they preserve meat by boiling and afterwards drying it, they keep serials like wheat and barley for whole years in mud store houses, and keep potatoes, turmeric and sweet potatoes under the sand to keep them fresh for many days. Cranny further described that women are the worst victims of food shortage. Due to the poverty and large family size, they can't get their fair share in family food which leads

different diseases due to lack of food such as anaemia. Bradoitte (1994) emphasize the need of awareness about food pollution for women as they are directly linked to food issues.

The water crisis has had a devastating impact on women from the poor peasant class because of their dependence on the environment for their subsistence needs. There has been extreme loss of ground water, along with flooding, landslides, and destruction of biomasses. Deforestation impacts on availability of forest products and time required to collect these products. Therefore, it increases the workload for women and decrease household nutrition (Nosherwani, 1999). Women fetch water from wells, hand pumps and other resources in rural areas not only for drinking and cooking but also for their daily use. This exhaustive work took approximately 4-5 hours daily. Their health also got affected by this practice (Cranny, 2001). Omar (2004) described that in Pakistan, 71% population is deprived from the facility of pure drinking water, therefore, Hepatitis A, B, & C, Malaria, different skin related diseases, and Typhoid are very common. Women are considered to be responsible for looking after all the family members, which increases their work load. Hardoy (1992) declared unsafe drinking water as major health hazard. He described that 25% of all the hospital beds are occupied by the patients who become ill because of water born diseases. He stated that the most common source of contamination are results of human activities such as discharges from the factories, leaking the underground pipes and storage tanks, improperly treated sewerage disposal and the most common of all agricultural, chemical pesticides, trickling and seeping into underground water aquifers. So if women are aware of all these problems, they can treat the water domestically for safe and sound health of their family members as they can handle and manage the household matters in a best way.

Another important environmental factor is sanitation and waste management by the women. Women as mothers help the children to understand the hygiene and cleanliness lead to prevention of diseases. Women can maintain things in a good way by proper disposal of domestic refuse and maintenance of hygiene not only inside homes but also surrounding the homes. Greenheldge (1994) appreciated women role and said that women play vital role by meeting families in neighbourhood to seek cooperation in removing potential health hazards; organizing social welfare camps with the help of some leading personalities of neighbourhood; and disseminate proper information about sanitation and health program. He further stated that women can play important role in managing the kitchen solid as well as liquid waste and emphasized the

need to involve women organizations to mobilize the community on these issues. McGrath (2019) revealed the fact that overall levels of air pollution have been declining because of a growing scientific awareness of the scale of problems that it causes. The findings of research conducted by Du, et al. (2018) highlighted that respondents of their research do recognize environmental degradation and acknowledge the need to take action to solve or at least mitigate it.

Nosherwani (1997) reported health problems in both males and females in rural areas because of social conservatism, and inadequate outreach of primary and reproductive health care services. Momsen (2004) stated that pollution, unsafe water, and different chemicals affect every human being. The pesticides used for surplus food, unsafe water, chemicals, pollution, smoke, effluents, and emissions leave very bad effects on health of every living creature. Nosherwani (1997) described that women who works in fields during their pregnancy, their inborn fetus are indirectly affected by pesticides. He cited a research study conducted by an NGO "Shirkat Gah" , the results indicated that women who worked in cotton fields had different skin problems, headache, vomiting, nausea, diarrhea, asthma, eyesight weakness, and kidney problems. The unsafe environment of factories where dim light, noise, dust, and other different problems leaves many bad effects on the health of males and females. But research evidence shows that women are affected more than men due to their reproductive role as Momsen (2004) described that women are more prone to pollutants than men. Cranny (2001) further mentioned the lower nutritional level of women even after working hard and social stereotype dictates that women and girls perform even when they are sick. According to world health organization (2015) evidence links emissions from wood and coal heating to serious health effects such as respiratory and cardiovascular mortality and morbidity. Mohisan (1999) stated that the in rural areas of Pakistan main sources of fuel in villages are cows' dung and wood. Smoke filled huts due to lack of ventilation has worsen the situation. Local seasonal conditions such as the rainy seasons prevent women from cooking outside which increase their exposure to this smoke for long periods at a time. Young girls are exposed even more to the effects of smoke because they spend many years with their mothers' to learn cooking and are at higher risk in the long run.

Panday (2003) highlighted the environmental factors for women health problems such as air and water pollution, ozone depletion and global warming on larger scale. The traditional problems of malnutrition, pregnancy, and household works, in addition to toxic fumes in the

traditional kitchens and exposure to chemicals in the working environment makes a women's life miserable. Even the pesticides used to get rid of flies, mosquitoes, and cockroaches affect the pregnant women and are capable to inducing deformities in infants.

Keeping in view the importance of women's role and participation in environmental management, this study was undertaken to explore the awareness level of aged rural and urban women (above fifty years of age) about their role and participation in environmental management for sustainable development and to get data about rural and urban aged women and their interface with the environment.

Material and Methods

The nature of the research study was descriptive which not only involve collection and tabulation of data but also provide valid and useful inferences after careful analysis of data. According to Gay (1996) it involves collecting the data in order to test hypotheses or answer questions concerning the current status of the subject of the study. For this study survey method (one of the methods for descriptive research) was used. Keeping in view the nature and intricacy of the phenomenon, information regarding role and participation of aged women in environmental management for sustainable development was collected through a questionnaire that was comprised of open and close ended questions. Questionnaires can be designed and used to collect vast quantities of data from a variety of respondents. According to Wilkinson and Birmingham (2003), a well-planned and well executed questionnaire campaign can produce rich data in a format ready for analysis and simple interpretation and a well managed questionnaire can be highly resource-intensive than many other research instruments.

The questionnaire was developed and distributed to rural and urban women who were above fifty years of age. In this survey-study convenient sampling technique was used. For developing the questionnaires the researcher reviewed a number of books and articles relevant to the topic of the study. The questionnaires consisted of a covering letter, demographic information about respondents, guidelines for recording response, and open and closed ended questions. The questionnaires were validated by the five experts in the field of environmental management. The changes were made in the instrument in the light of suggestions given by the experts. The questionnaires were pilot tested on small sample of women and reliability was calculated. Cronbach Alpha for the questionnaire was ($\alpha=0.845$). The

covering letter stated briefly the purpose of the study and assurance of confidentiality of responses.

Demographic Characteristics

Following demographic information was collected from the rural and urban women:

Table 1
Educational Level of Respondents

Qualification	Urban		Rural	
	F	%	F	%
Primary	12	12	09	09
Middle	06	06	07	07
Matriculation	05	05	06	06
Intermediate	29	29	03	03
Illiterate	48	48	75	75
Total	100	100	100	100

Figures in the above given table indicate a high percentage of illiterate respondents i.e. 75% rural women and 48% urban women. Among the literate respondents 12% urban and 9% rural women has primary education, 6% urban and 7% rural women had done middle, 5% urban and 6% rural women were matric passed and 29% urban and 3% rural women were F.A. passed.

Table 2
Number of Children

Number of Children	Urban		Rural	
	F	%	F	%
2–4	38	38	22	22
4–6	55	55	68	68
6–8	07	07	10	10
Total	100	100	100	100

The above given table shows that a substantial number of respondents (68% rural, 55% urban had large family size (4-6 children), while 10% rural and 07% urban women had 6–8 children and 22% rural and 38% urban women had a family of 2–4 number of children. The findings of the study are described below:

Water Management

1. A substantial number of respondents (91% urban and 80% rural women) had their own resources of water among which 33% urban rural and 72% urban women had electricity. It shows that urban women had more developed resources getting water as compared to rural women's old sources of getting water live from wells tube wells, hand pumps.
2. A large number of women from both urban and rural areas had sufficient water for their daily use, i.e. 75% and 70% respectively. It means a majority of respondents had no problem in getting water. It was further indicated that the women who had not sufficient water for their daily use managed the water properly by reusing the water or by using the other resources like collected water from tube well's.
3. The types of problems were reported by the women while striding water i.e. very tired work and load shedding. 56% rural and 10% urban women said that getting water from hand pumps and tubewells was a difficult task and they get tired while doing this activity while 90% urban and 44% rural women said load shedding was a major problem in rural areas because of which they could not use electricity pumps regularly for collecting water.
4. 42% rural and 59% urban women said that they had access to clean drinking water remaining respondents did not get clean and pure drinking water.
5. The results of this study revealed that major impurities found in water like different types of salt (a kind of salt) because of which a bitter taste and yellow color comes in water. About 34% rural women and 20% urban women complained that different kinds of salt were present in water. Only a small percentage of women found mud in water i.e. 5% rural and 2% urban women. The remaining percentage of women did know about the type of impurities found in water.
6. The study indicated that a high rate of illness was found among rural and urban women due to impure water (63% rural 41% urban). Whilst remaining percentage of respondents said that they did not face any illness due to pure water.
7. The women were questioned about the diseases, which are caused by water pollutions. In response, most of the urban women answered about diarrhea, hepatitis, malaria with the percentage of 80, 90, and 90 respectively. Whereas 60% rural women knew about diarrhea and

hepatitis, 30% about malaria and 80% had the view that fever is caused by contaminated water, so the level of awareness about diseases caused by water pollution was high among urban women as compared to rural women.

8. According to the data 92% urban women and 57% rural women answered that improper sewerage system, sanitary taps or polluted pipes and smoke filled houses or huts can pollute the environment. Whereas 43% rural women and 8% urban women answered in negative. It again shows that the level of awareness about the water pollution was higher among urban women as compared to rural women.
9. The data revealed that only a small percentage of rural women 10% used boiled water whilst 40% urban women used boiled water. This shows that urban women were more conscious as compared to rural women about the advantages of boiled water.

Food Management

1. Substantial numbers of urban and rural women were getting food by purchasing from the nearby market i.e. 73% and 61% respectively. While only 6% rural women said that they had their own crops. While 27% urban women and 33% rural women were getting food from both ways.
2. Approximately equal number of respondents used both modern methods like keeping food in refrigerators and old conventional methods e.g. 52% urban women and 41% rural women were using refrigerators to preserve food as compared to 20% and 34% urban and rural women using conventional methods respectively. Remaining 28% urban and 25% rural women were using both methods to preserve food.
3. When the respondents who used conventional methods for preservation of food were asked which method do they use mostly they reported three methods those include keeping food on dry and cool places, first boiling the food and then get it dried, and by keeping food under the send.
4. It was observed that 62% rural and 74% urban women took special care of hygien while cooking and 38% rural and 26% urban women paid least attention on this aspect. Moreover, a large majority of respondents, 79% urban and 71% rural women, were those who washed their hands before eating while 21% urban and 29% rural females did not washed their hands before eating or cooking food.

5. The study revealed that 75% urban and 72% rural women said they did not face any problem due to eating spoiled food. They further told about the type of diseases by eating spoiled food e.g. vomiting, cholera, and diarrhea.
6. Majority of rural women told 79% told that they possessed different kinds of cattle i.e. buffaloes, cows, hens, goats etc. While only 15% urban women said about having cattle at home and those mostly include goats and hens. Furthermore, majority of the rural women 65% used the dairy products for income generating purposes by selling them in market like milk, eggs, and meat while 35% used these products as food supplement.

Sanitation and Waste Management

1. A substantial number of respondents from both rural and urban localities 70% urban and 65% rural women disposed off their house garbage at the right place of disposing garbage.
2. The data revealed that a large number of women (60% urban and 52% rural) participated in cleanliness of streets and surroundings. While 40% urban and 48% rural women did not show any interest in the cleanliness of streets and surroundings area.
3. Majority of urban and rural women took special care of body cleanliness and hygienic measures i.e. 63% and 52% respectively. While 37% urban and 48% rural women paid not much attention on this aspect.
4. All the women of urban locality said that there are underground sewerage pipes for proper drainage of waste. In rural areas 20% women told about the presence of underground sewerage pipes, 42% had brick linked drains at home and 38% maintained opened non brick lined drains.
5. It was found that there was proper disposal of sewerage water in urban localities and women living in urban areas were mostly satisfied with the disposal of sewerage water. Whilst, 31% rural women had disposal of sewerage water through main water course, while 30% women had the disposal of sewerage water in open ponds. 23% respondents said that sewerage water was sent to fields crops. The remaining 16% told that there was no proper system and sewerage water spread in the streets.

Conclusion

The present research focused to find out the awareness level of aged rural and urban women about their role and participation in environmental management for sustainable development.

The population of the study comprised of the rural and urban women belonging to middle class living. Using convenient sampling, a sample of 200 respondents, 100 rural and 100 urban women, was selected. Questionnaires were used as tool for data collection. Questionnaire was developed in urban to enhance general understanding of literate women. The researcher filled in the questionnaires herself on behalf of illiterate women, included in the sample of this study.

According to the study results aged women living in urban locality were relatively more literate than the women of rural locality and more facilities were available for urban women as compared to rural women. Modern resources were more easily available to urban women than women of rural area. However, load shedding was reported as a major challenge by the women of both types of localities as electricity pumps could not be used regularly without electricity. Almost half of the respondents had access to the clean drinking water. The results further revealed that there were impurities found in water because of which a bitter taste and yellow color comes in water. A substantial number of respondents reported that high rate of illness is due to impure water and strenuous full day household activities. The studies show that rural women face higher risks of morbidity and mortality because of exhausting physical work. (Doyal, 1995; Basu & Sidh, 2008). They suffer from chronic obtrusive pulmonary disease because of carbon monoxide pollutants. (Clark et al. 2010). However, the commonly faced diseases were diarrhea, Hepatitis and malaria. A majority of respondents said that sewerage system, sanitary taps or polluted pipes are major source of pollution. The awareness level about diseases due to contaminated water and water pollutants was higher among urban women as compared to rural women. The data revealed that only a small number of rural women used boiled water as compared to substantial number of urban women who either use boiled water or filtered water.

More than half of the respondents were purchasing from the nearby market from both urban and rural women. Food was managed by using not only modern methods but also conventional methods of preserving food. The food conservation methods include keeping food on dry and cool places; get the food dried after boiling, and by keeping food under the sand. It was observed that relatively more urban women took special care of

hygiene by keeping the kitchen clean and washing their hands. Majority of rural women possess different kind of cattle as compared to urban women. In rural areas dairy products were used for income generating purposes.

A large number of respondents from both rural and urban localities disposed off their house garbage at the right place of disposing garbage. Cleanliness of streets was seen as an important task by more than fifty percent rural and urban women. Majority of urban and rural women took special care of body cleanliness and hygienic measures. All the women of urban locality said that there is underground sewerage system. In rural areas mostly brick lined drains and open and non brick lined drains were maintained along with underground sewerage system at few places. The study also revealed that there was proper disposal of sewerage water in urban localities as compared to improper system in rural localities where sewerage water was either sent to ponds or fields/crops. In some areas water spread in streets all around.

In this way mostly aged women of urban localities were more conscious and well aware of their role and participation in environmental management. However, it is another fact that proper facilities were more readily available in urban localities as compared to rural localities.

Recommendations

1. Proper awareness programs/ campaigns should be launched by the authorities on water, food and waste management in both rural and urban areas.
2. The government should arrange special programs for Rural women in which they should be informed about pollution and diseases due to contaminated water because it was found that sewerage system, sanitary taps or polluted pipes are major source of pollution and spread of diseases
3. The Government should provide support to women at the grassroots to ensure their valuable participation which is necessary to play this role.

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