

The Impact of Women on Urban Sustainability (Case Study: Three Districts of Tehran)

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Abstract—Today, systems of management and urban planning, attempt to reach more sustainable development through monitoring developments, urban development and development plans. Monitoring of changes in the urban places and sustainable urban development accounted a base for the realization of worthy goals urban sustainable development. The importance of women in environmental protection programs is high enough that in 21 agenda has been requested from all countries to allocate more shares to women in their policies. On the other hand, urban waste landfill has become one of the environmental concerns in modern cities. This research assumes that the impact of women on recycling, reduction and proper waste landfill is much more than men. For this reason, three districts; Yousef Abad, Heshmatieh & Nezam Abad are gauged through questionnaire and using the analytical research hypothesis model. This research will be categorized as functional research. The results have shown that noticing the power of women, their participation towards realization of the development objectives and programs can be used in solving their problems.

Keywords—Citizens (Urban), Environmental, Sustainability, Solid waste, Tehran.

I. INTRODUCTION

URBAN development dominated by human activities is always accompanied by resource depletion and environmental pollution [13], [14]. More than half of the world's population lives in urban regions and it is expected to increase by 70% in 2050 [12]. It shows the importance of cities in studies.

Changes that the world has experienced over the past 20 years such as environmental disorders and extreme changes in traditional cities cause not only chaos and irregularity in the appearance of the cities but also serious environmental problems that threaten the inhabitants [11]. One of these problems is related to urban solid waste. As the reports show, controlling waste is an inevitable phenomenon in third world countries and the role of women in decreasing and recycling the solid waste is not negligible [10].

Conditions of cities are not suitable in Iran; that is, 31 thousand tons of solid waste is produced in Iran every day and 70% of them are food waste (organic) [4]. Concerning rapid urban growth, today's situation is definitely far more abnormal. Affected by global processes of economy and

endogenous factors, population of Tehran, as the capital of Iran, has increased by 44 times over a period of 130 years [2]. Moreover, urbanism doubled from 1957 to 2007 and increased by more than 30% in 2007 [6].

Since a huge amount of urban waste contains recyclable materials such as paper, glass and plastic, etc., if some waste is recycled and reused by citizens, especially urban women and the rest is given to the authorities to be recycled, a considerable amount of waste decreases (decrease at source), waste landfill costs are reduced [3] and urban environmental destruction and pollution is highly prevented through decreased use of primary resources. Ignoring the role of women in the environmental sustainability and their impact on urban waste management, this research tries, by explaining the status quo, to express the role of women in Iran's metropolises.

II. RESEARCH THEORETICAL FRAMEWORK

Urban development can bring major investments in public health infrastructure and measures to reduce exposure to environmental hazards. Without such investments and measures, urban areas would still be far less healthy than rural areas. With them, however, urban habitats are on average healthier [7]. Yet the benefits from urban investments in public health infrastructure are very unevenly distributed [5]. Urban sustainable development is a kind of development that meets urban people's requirements, guarantees their survival, and at the same time does not pollute water, soil, and air (three main elements) which are necessary for human survival. Sustainable city is a city whose decision-makers and planners take comprehensive measures in the field of optimum use of urban space, transportation, land use, energy consumption, sustainable use of land and water resources, waste production, and attracting citizens' participation [8]. In this case, some believe that the "sustainable environmental development approach" means increasing recycling, decreasing wastes, and choosing green products [9]. Concerning the studies carried out in this regard, Tehran has gone beyond development red lines in many cases, and it is obvious that more urban development is definitely followed by the destruction of a lot of natural gifts. Tehran is one of the most polluted areas in the world and its air pollution has been beyond the vital limits in many days of this year. This issue is as the result of both incorrect policies and location of Tehran. Suspended particles less than 10 microns in diameter are one of the pollutants found in cities. According to the studies conducted by Tehran Air Pollution Reduction Office, every citizen of Tehran inhales more than half a kilo of this pollutant every year [1].

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Since about 1 million cars (out of 2.5 million cars in Tehran) move in the streets of Tehran, 2.2 billion hours of citizens' life time is wasted in traffic, 41 million tons of greenhouse gas is released in the air every year and 16 tons of tire particles, etc. is released every day.

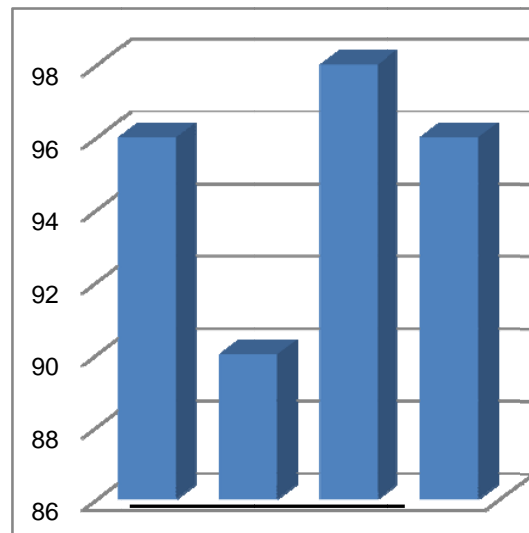
Waste production per capita and its production growth rate are also high in Tehran. Waste combination is also harmful to the environment and only a small amount of it is recycled. About 70 % of waste produced in Tehran is wet waste which can be easily converted to compost. 25 to 27% of wastes are solid wastes (paper, glass, plastic, etc.) which can be recycled like most countries in the world. Shortage of water resources in Tehran must also be taken into consideration; despite expensive water transmission and overconsumption, its per capita is decreasing. Despite participation in all aspects of life, this development has not been observed practically and seriously yet and Tehran citizens are not involved in the administration of such affairs. Therefore, current process of development and growth of Tehran is not towards its sustainability and its growth increases environmental problems.

III. RESEARCH METHODOLOGY

It has been tried in the present research to analyze the factors affecting environmental participation of women. Required information was obtained through library study, interviews, and questionnaires. Statistical population included all women residing in Tehran. Since Tehran is a large city, samples were taken from two different districts (Region 6 & 8 of Tehran Municipality) which are located in 4 geographically various regions of Central Yousef Abad, Yousef Abad (Western Kordestan), North Nezam Abad and Heshmatiyeh. Random sampling method was used in two regions with 100 households. Data was analyzed using descriptive statistical methods as well as inferential statistics through calculating correlative coefficient using SPSS software.

VI. DISCUSSION AND ANALYSIS

Perceiving and understanding the environmental issues as a variable affecting the environment is of great importance. Proposing 5 questions, an image of this issue was obtained. Fig. 1 shows knowledge status of statistical population. As shown here, more than 90% of participants have appropriate status in all cases.



Recycling Knowledge interest in Preserving Knowledge of waste Belief in water Green space Delivery pollution by detergents

Fig. 1 Knowledge and understanding level of environmental issues (author)

One of the functional objectives of this research is to provide some guidelines to increase environmental knowledge of women and to protect urban environment. In this research, women were asked to introduce some guide lines in this regard.

In this participation-based research, guidelines were taken based on women's viewpoints so that they could be executed and administrated according to especial facilities. According to women's points of view (54%), advertisements and education by organizations increase recycling in the society. In reducing the waste volume, recycling had the highest score among the participants. To reduce the volume of wastes which decompose slowly in the nature (like; nylon and plastic), 66% of women suggested cloth bags or shopping baskets which must be used in order to reduce the consumption.

Variables were analyzed based on qualitative and quantitative assessment of indexes in statistical tests. To estimate correlation coefficient and to analyze the differences of variables in studied areas, variance analysis and correlation tests were used. In this study, the dependent variable (participation of women) shows various correlations with independent variables.

The age of women has an inverse correlation with participation level and is - 0.1. In this case, correlation is acceptable. As age increases, their participation decreases. It can show viewpoints of the new generation towards environment and can explain the fact that 1) investment in the new generation can be more effective and 2) if the participants are old, more traditional mass media like face to face education must be used.

There is a direct or relation between women education and their participation (0.2). There is an inverse correlation between number of children and participation (-0.1).

Correlation between working hours and participation is -0.03. There is a direct correlation between family cost and participation (0.09). There is also a direct correlation between years of living and participation (0.01). Eta coefficient was used to measure the correlation between participation and qualitative variables. This coefficient evaluates the correlation of research indexes in terms of significance scope. According to Eta coefficient, the correlation between participation and employment status is 0.085; the correlation between participation and housing status is 0.155; and the correlation between participation and house ownership is 0.022. According to field studies and reviews, these indexes affect the participation level. Based on the field results in the studied samples, there is a significant correlation between indexes and participation level and it shows their definite role in women participation trend.

In correlation test, variables are dependent on each other based on statistical analysis. Women's environmental behaviors in the field of participation are dependent on the variables including age, education and number of children. The correlation between participation and age was -0.1; between participation and working hours was -0.03; and between participation and family costs was 0.09. Therefore, the correlation between variables is positive in statistical test of the second hypothesis. Based on statistical analysis, there is a correlation between women's environmental behaviors and research effective indexes.

V. RESULTS

The role of citizens is undeniable in all social affairs and one of the important issues in today's advanced societies is urban environmental protection. Improving and protecting urban environment is an essential and costly task for metropolises in developing countries. One of the most important tasks of urban management is to provide suitable living conditions for humans in cities and to improve urban environment.

Environmental issues normally appear along with rapid urbanism and urban population growth. Issues like air pollution, water pollution, overproduction and overconsumption, waste production and their hygienic landfill, etc. have undesirable effects on general health of citizens and urban environment. Considering complexity of environmental issues, costly methods and protection tools, the best choice is to use people participation.

Concerning women's role, they can be employed to meet part of development plans and objectives. Problems of today's cities (like Tehran) can only be solved by correct and optimum use of abilities and talents of citizens including women in the form of participation programs. Results of this research reveal women's tendency to participate in environment protection programs and to resolve problems. In this regard, providing proper basis and fundamentals seems essential. Some recommendations are proposed regarding the results of field studies in Tehran:

- Developing education and advertisement to increase women participation in environmental protection.
- Providing participation fields of alley councils to encourage women to recycle waste and to monitor it.
- Preparing required facilities to help women with domestic recycling and its easy implementation.
- Improving activities of the private sector to help women with domestic recycling.
- Educating women about the environment protection guidelines and domestic recycling in mass media and alley councils.

VI. CONCLUSION

Recent studies on urban planning and urban development have showed that the best strategy to face the main challenges is not only to make physical construction of buildings but also to strengthen the social resources and human capitals. The strategy of the city reconstruction benefits from the social coherence, strengthening public communication and active participation of the citizens in the society. However, it has been emphasized on their social ecology instead of emphasis on physical ecology of the cities and neighborhood.

It seems that neighborhood-centered approach with some changes in management attitudes towards decentralization of power and promotion of people's participation at the neighborhood level have been regarded as strategies to overcome the present challenges in urban management. Besides, neighborhood-centered, citizen participation, infrastructures and increasing management capabilities in managing the city are a key strategy related to the formulation of policies.

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