

**WATER RESOURCES RESEARCH
IN
SRI LANKA**

Symposium Proceedings of
The Water Professionals' Day

Organized by

Geo-Informatics Society of Sri Lanka (GISSL)

In collaboration with

Department of Agricultural Engineering
University of Peradeniya

October 01, 2008

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Water Pollution in Pinga Oya: A Gender Analysis

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ABSTRACT

The gender perspective is very important to understand the water resources as well as water pollution in developing countries. The gender analysis can bring some useful and hidden stories about crisis related to water pollution. This gender analysis of water pollution is based on Pinga Oya which is one of the important tributaries of Mahaweli River. Upper part of the Pinga Oya catchments belongs to Pujapitiya DS division and the downstream part belongs to the densely populated Akurana DS division. Water in Pinga Oya is polluted mainly due to disposal of waste water and solid waste.

There are social, cultural, political and legal causes of water pollution in Pinga Oya. All these causes are more or less connected with the gender relations. It is observed that the gender based patriarchal decision making process has become one of the leading root-causes of water pollution in Pinga Oya. In the case of Pinga Oya, there are many socio-cultural factors and political forces influencing water pollution which cannot be controlled by local women.

Women are having much closer relationship with water compared to men at their day to-day life. Also, it is the women who suffer severely as a result of water pollution than that of men. Sometimes, women become the victims of water pollution due to patriarchal values on use and control of water resources. Since women are the household managers, they can easily control the water pollution to a greater extent by reducing generation of solid waste and waste water at domestic level. To achieve this goal, women in Pinga Oya catchment have to develop and practice economic, technical and behavioral water friendly imaginations from kitchen to community.

INTRODUCTION

Pinga Oya is one of the important tributaries of the Sri Lanka's longest river Mahaweli. It has a perennial flow with major seasonal fluctuations where the roaring flood flows during the monsoon (May to September) and becomes a

trickling cascade in the dry season (November to February). The stream originates in the mild rolling terrain of Pujapitiya Divisional Secretariat (DS) division of Kandy district in the Central Province and flows through a course of 6 km before it meets Mahaweli River just upstream of the Polgolla diversion barrage of the Mahaweli Multipurpose Irrigation Scheme. The upper part of the Pinga Oya catchment belongs to the Pujapitiya DS division which is a mildly populated rural and sub-urban area with a largely agricultural land use, whereas the downstream part belongs to the densely populated Akurana DS division. The stream runs through Akurana town which has the second highest population density in Sri Lanka. In Pujapitiya division, the population is predominantly Sinhalese-Buddhists. In Akurana division about 60% of the population is Muslims, 35 % are Sinhalese and there is a small community of Tamil estate workers too. The Muslim population is largely concentrated in the Akurana town area along the stream (Pinga Oya) while the adjoining mildly populated area has a Sinhalese majority (Cap Net, 2003).

Water of Ping Oya has become unfit for any kind of human consumption. For instance, the coliform count, which is a direct measure of human excreta related pollution in the stream was as high as 3000 per liter where as the WHO standard is 0 per liter for drinking purposes and 1000 per liter for any other use. In many places the water is dark in color and very turbid. Some stagnated places have developed anaerobic conditions and generate a foul smell (Cap-Net, 2003).

Akurana town experienced high flood situation in 2001 when businesses suffered heavy losses. Several minor floods recorded in the recent past have caused severe inconveniences to people. Bank erosion has intensified to a great extent during the past fifteen years. The places in which the stream was not more than ten feet wide are now as broad as forty feet. Water levels in these points have decreased dramatically and the stream cannot be used for any practical purpose.

There is a small lagoon like feature at the point where Pinga Oya enters River Mahaveli in which the flow is almost quiescent. Recently, severe algal blooms were recorded in this part of the stream due to the high supply of nutrients. There is a fear of large amounts of algal sediments being carried away into the Polgolla barrage pond which might hinder the operation of the barrage. Mechanized raking system at the inlet to the tunnel of the Polgolla barrage cannot cope with the amount of trash brought in by Pinga Oya flow because it exceeds the design capacity of this device. There were instances where diversion operation was disturbed by this excessive amount of garbage blocking the inlet of the tunnel which diverts the water to Mahaweli System H (Hettiarachchi, 2003).

There is a close relationship between women and water all over the world. This relationship is much closer in third world countries. It is the women who fetch water to their houses and use water for cooking, laundry and other sanitary purposes at their domestic level. Sometime women in both rural and urban set ups experience various hardships in use and control of water resources. When there is water scarcity or pollution of water, this situation become worst and women are made to be victims of water pollution. Therefore, women often tend to fight against the water pollution and function as collective actors to conserve water resources in many developing countries.

Eco-feminism is a particular type of feminism based on the relationships between women and nature, perhaps, due to the fact that the environmental and women's movements both became prominent about the same time. Agarwal (1997) says that "women are identified as being closer to nature and men as being closer to culture. Nature is seen as inferior to culture; hence, women are seen as inferior to men". Because of this, male dominates over nature and women. The patriarchal production processes have been continuously exploiting nature and women; on the other hand women become the victims of the environmental degradation.

The major aim of this paper is to look into the reasons for water pollution in Pinga Oya and their impacts on the basis of the gender relation. A gender analysis on the water pollution in Pinga Oya will help to frame questions about women's and men's role and relation in order to avoid making assumptions about who does what, when and why in terms of water pollution in Pinga Oya. Moreover, it will help formulating development interventions to reduce water pollution in Pinga Oya which are better targeted to meet both local women's and men's needs and constraints.

METHODOLOGY

The case analysis method was found very useful in understanding the gender relation in the field and collecting basic qualitative information. In addition, a semi-structured interview schedule was used to collect data on considering the factors such as ethnicity, educational level, employment and equal proportion of gender. The sample respondents were selected from two Grama Niladari divisions namely Dodamgolla of Akurana DS and Mullegama of Pujapitiya DS to include both Sinhala and Muslim ethnic groups.

In addition to the primary data collected from the interview survey, some useful secondary data were collected from Pradeshiya Shaba, Divisional Secretariat, and Medical Officer of Health and Women Welfare Officer of Akurana. Moreover, some valuable information was obtained from the stakeholders meetings and workshop held in Akurana.

FINDINGS AND DISCUSSION

It is important to mention some specific features of the majority Muslim women in Akurana to understand the right situations of gender issues related to Pinga Oya water pollution. Muslim women face many socio-cultural restrictions compared to Sinhalese women. Higher education opportunities of Muslim women are restricted to some extent due to cultural factors hence can observe comparatively lower literacy rates. Akurana Muslim community mostly practices the endogamous marriage pattern. A considerable number of female teenage marriages is seen as well. According to the sources of Akurana Medical officer of Health, the fertility rate of Muslim women is fairly higher than Sinhalese women (the average fertility rate of Akurana Muslim women is 3.5). Moreover, it is possible to see more patriarchal social set ups in Akurana compared to other Muslim communities in Sri Lanka. Also, these women become fulltime housekeepers since most of males are employed out of Akurana. Thus, Muslim women hardly participate in any social activities. On the other hand, Sinhalese women mostly found in Pujapitiya area enjoy more economic and cultural freedom compared to Muslim women. As a result, these Sinhalese women are more concern and conscious about problems in Pinga Oya than Muslim women.

It is far more important to identify the causes of water pollution in Pinga Oya. There are social, cultural, political and legal causes of water pollution in Pinga Oya. All these causes are more or less connected with the gender relation. The solid waste and waste water which generate as social causes are mostly discharged into stream from the domestic sources. It is the women who mainly involved in domestic activities such as cooking and laundry. Thus, social causes of water pollution in Pinga Oya depend on the factors of female literacy level, education level and family size.

The cultural rituals and value system are other important causes of water pollution. One of the major reasons for the water pollution in Pinga Oya is higher population density in Akurana. Muslims have to live close to each other in order to perform many of their religious and cultural rituals. Also, they always attempt to live in tact to protect their cultural and social identity. These rituals promote higher social integration among Muslims and population density which directly or indirectly have negative impact on the environment. These cultural rituals restrict Muslim women's freedom and their acquiring awareness on the issues of water pollution in Pinga Oya. On the other hand, Sinhalese women in Pujpaitya who are culturally right opposite to Muslim women are having considerable knowledge about the cultural causes of water pollution. However, when looking at Pinga Oya water pollution issue from the gender perspectives, men are well- aware of the root causes of water pollution compared to both Sinhalese and Muslim women.

When it comes to political and legal causes of water pollution in Pinga Oya, these two factors are supposed to be very critical in unauthorized construction on the river bank or in the stream. There is no reservation at all for many of the constructions but all of these buildings have been legally approved and provided with all the infrastructure facilities by the responsible institutes. Many of these constructions and approval are done because of bribery and informal political relationships. These patriarchal power relations are totally against the women's views and ideas. Women never involve in this kind of power or political negotiations with regard to constructions. The most important point is that Muslims in Akurana are more powerful than the Sinhalese in Pujapitiya due to their strength of political economy. It is observed that the gender based patriarchal decision making process has become one of the leading root-causes of water pollution Pinga Oya.

The primary information and data collected at the field is helpful to analyse the water pollution issue and its impact on the gender basis. According to the primary data collected in the field, it is important to note that 80 % of the respondents are aware that water in Pinga Oya is polluted. The interesting point is that both men and women know the crisis of water pollution in Pinga Oya without any gender difference. However, both Muslim and Sinhalese women have identified some health issues due to water pollution in Pinga Oya. They are as follows;

- Skin diseases due to bathing
- Transmission of diarrhoea
- Sudden outbreak of dengue fever
- The menace due to breeding of flies and mosquitoes during dry season
- Bad quality of drinking water taken from the well near by the streams

According to the field data collected from the interviews, it is the women who become the main victims of the water borne health crisis in Pinga Oya. 65% of the respondents express that women are mostly affected by the health crisis due to water pollution in Pinga Oya. Only 35% of the respondents state that women are not affected by water pollution in Pinga Oya. It is the economically vulnerable women from both communities experience these health issues because they use the stream water for bathing and washing purposes. Thus, the majority of Sinhalese women who are not economically viable like Muslim women become helpless in this regard.

Women in Akurana especially face many environmental issues because their husbands are mostly out of the home or out of the country. Many of the male in Akurana are employed either abroad or managing business in various towns in Sri Lanka. Thus, women happen to be at home but they were provided with all the domestic facilities. However, this is totally different when it comes to women in Pujapitiya. They are more aware about the water pollution and its negative impacts than that of Akurana Muslim women. According to Medical Officer of Health, Muslim women have poor knowledge about water borne diseases and other epidemics compared to Sinhalese women.

During the survey, 75% of the respondents said that water pollution is a specific problem against women. This statement indicates that it is women who have got more close relationship with water and when water is polluted, women have to undergo various difficulties and hardships. According to the Medical Officer of Health, around 65% of people in Akurana use ground water for drinking. The ground water table in Akurana area is always affected by the water level of Pinga Oya. Many of the women from poor families use water of Pinga Oya for bathing and washing clothes too. When the water of Pinga Oya is polluted, it is women who directly suffer and encounter many health and sanitary issues. Thus, it is clear that water pollution in Pinga Oya is more or less a problem against women.

According to Vandana Shiva's speech on "Let Us Survive – Women", 'in the perspective of women engaged in the survival struggle which are simultaneously struggle for the protection of nature, women and nature are intimately related, and their domination and liberation similarly linked. The women's and ecology movements are therefore one, and are primarily counter trends to a patriarchal male-development' (Bodda, 1991).

Today women are engaged in different forms of ecological movements to save nature and protect life supporting ecological system. Many of these ecological movements are based on water related issues in developing countries. They have been launching their campaign against many anti-environmental development projects through actions varying from simple grass roots level actions to international ecological movements. Indian women belonging to both educated middle class and rural level vulnerable groups are playing a vital role in Indian ecological movements. Indian women have become major milestones of Indian environmentalism (Banuri and Marglin, 1993). The best known example for women lead collective environmental actions are the roles played by Medha Patkar and Kalpana Sharma as active eco-feminists in Narmada movement. It is difficult at times to identify Chipco movement just an environmental movement because it was totally organized and carried out by women at grass roots level and had become a women's movement which fought for their environmental rights. Therefore, Chipco is the eco-feminist

movement and it was the movement where all eco-feminist ideologies found practically first time in the history of developing countries. This argument which sees Chipco as eco-feminist movement is further and well discussed by Banuri and Marglin.

When compared the Sri Lankan experience with the role of women in ecological movements, it is totally different from India. Even though Sri Lanka did not experience any national level environmentalism as in India, there were many popular grass root based environmental movements such as Eppawala, Kandalama, Iranwila and Nurochcholai. However, it is not possible to witness an active female participation in most of these environmental movements. But according to this study, 60% of respondents report that women can influence to minimize water pollution. It is because of the role that women can play in social change as in the case of India. On the other hand, 40% of respondents say that women cannot influence to control water pollution due to some cultural reasons.

It is possible to see women as the leading water collectors and water managers at domestic level both in urban and rural communities. Women can bring many social changes to have better relation with nature as "an agent of change". It is the women who mainly contribute to the development of human personality by teaching social norms and values to children. Thus, women can make environmentally friendly personalities through the socialization process. In many environmental movements based on water crisis in developing countries, it is the women who have been taking the leadership and they have achieved many of their 'water rights' through ecological feminism (Mahees, 2006). Thus, even in the case of Pinga Oya, women can be the best agent and leaders to control the water pollution. Here, women can function as an active movement against the water pollution in Pinga Oya leading to environmental conservation based on cultural context rather than dependant on external motivation.

CONCLUSIONS

Pinga Oya is one of the important tributaries of Mahaweli River but it is under severe threat and influence due to various human activities. The increasing population and housing density, unauthorized construction, disposal of solid waste and various types of waste water into Pinga Oya and changing socio-cultural patterns with the influence of political power are some of the major root causes of water pollution of Pinga Oya.

The water pollution and its related ecological and health problems have been influencing the ecosystem of Pinga Oya and entire community living around it. This problem has mostly influenced women and their day-to-day activities.

Sometime, some women experience problems such as poor access to good quality water, menace of epidemics and odour and problems of flies and mosquitoes due to water pollution in Pinga Oya. But, many of these issues hardly come out as a result of cultural constraints and problem of maintaining ethnic identity.

Finally, it is possible to state that water pollution in Pinga Oya has caused serious ecological, social, health and political problems to the entire Akurana community. However, when look at the problems through gender perspective, it is the women who suffer most and undergo more grievances than that of men. Women can play a crucial role in influencing the actions and activities of controlling water pollution in Pinga Oya. Here, women can become the guardian of Pinga Oya by changing themselves as a strong ecological movement to protect the water rights of all the people. To achieve this goal, women have to develop and practice economic, technical and behavioral water friendly imaginations from kitchen to community.

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