Regional Centre for Urban & Environmental Studies (RCUES), Mumbai
(Fully supported by Ministry of Housing and Urban Affairs, Government of India)

Established in 1926, the All India Institute of Local Self Government (AIILSG), India is a premier autonomous research and training institution in India. The Institute was recognized as an Educational Institution by Government of Maharashtra in the year 1971. The Institute offers several regular training courses in urban development management and municipal administration, which are recognized by the Government of India and several State Governments in India.

In the year 1968, the Ministry of Housing and Urban Affairs (MoHUA), earlier Ministry of Urban Development, Government of India (GoI) established the Regional Centre for Urban & Environmental Studies (RCUES) at AIILSG, Mumbai to undertake urban policy research, technical advisory services, and building work capabilities of municipal officials and elected members from the States of Goa, Gujarat, Maharashtra, Rajasthan and UTs of Diu, Daman, Dadra & Nagar Haveli. The Ministry of Housing and Urban Affairs (MoHUA), Government of India added States of Assam and Tripura from February, 2012 and Ladakh from August 2017 to the domain of RCUES of AIILSG, Mumbai. The RCUES is supported by the MoHUA, Government of India. The MoHUA, Government of India has formed National Review and Monitoring Committee for RCUES under the chairmanship of the Secretary, MoHUA, Government of India. The Principal Secretary, Urban Development Department, Government of Maharashtra is the ex-officio Chairperson of the Advisory Committee of the RCUES, Mumbai, which is constituted by MoHUA, Government of India.

The RCUES was recognized by the Ministry of Urban Development, Government of India as a National Training Institute (NTI) to undertake capacity building of project functionality, municipal officials, and municipal elected members under the earlier urban poverty alleviation programme-UBSP. The RCUES was also recognized as a Nodal Resource Centre on SJSRY (NRCS) and Nodal Resource Centre (NRC) for RAY by Ministry of Housing and Urban Poverty Alleviation, Government of India.

The AIILSG, Mumbai houses the Solid Waste Management (SWM) Cell backed by the Government of Maharashtra for capacity building of municipal bodies and provide technical advisory services to ULBs in the State. The Water Supply & Sanitation Department (WSSD), Government of Maharashtra (GoM) established Change Management Unit (CMU) in AIILSG, Mumbai from 13th January, 2010 to 30th June, 2014 and also selected AIILSG, Mumbai as a Nodal Agency in preparation of City Sanitation Plans for 19 Municipal Corporations and 15 A Class Municipal Councils in Maharashtra State, under the assistance of Ministry of Urban Development, Government of India. The WSSD, GoM also established Waste Management & Research Centre in AIILSG, Mumbai, supported by Government of Maharashtra and MMRDA.

In August, 2013 Ministry of Urban Development, Government of India empanelled the AIILSG, Mumbai as Agency for providing technical support to the Cities / Towns of States / Urban Local Bodies (ULBs) in the field of Water Supply and Sanitation, Sewerage and Drainage systems.

In July 2015, Ministry of Urban Development, Government of India empanelled the RCUES & AIILSG, Mumbai an Agency for technical support in Municipal Solid Waste Management under Swachh Bharat Mission (SBM) programmes.

In February, 2016, Ministry of Housing and Urban Poverty Alleviation, Government of India empanelled the RCUES of AIILSG, Mumbai for conducting training and capacity building programme for experts of SMMU, CMMUs, COs, Key Officials and other stakeholders of the State and Urban Local Bodies (ULB) level under Deendayal Antyodaya Yojana – National Urban Livelihoods Mission (DAY – NULM).

In December, 2017, AIILSG has been empanelled as a training entity regarding implementation of new Integrated Capacity Building Programmes (ICBP) under Urban Missions, viz Atal Mission for Rejuvenation and Urban Transformation (AMRUT), Swachh Bharat Mission (SBM), Smart Cities Mission (SCM), National Urban Livelihoods Mission (NULM), Housing for All (HFA), Pradhan Mantri Awas Yojana (PMAY) and Heritage City Development and Augmentation Yojana (HRIDAY) for Elected Representatives and Municipal Functionaries.

At present, RCUES and AIILSG, Mumbai is involved in providing capacity building, research and technical support to number of State Governments and ULBs for implementing various urban development missions and programmes launched by the GoI.
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Women need safe cities, and more

The recent loss of the India women's team in the semi-finals of the ICC World T20 championship was a subject of public debate for quite some time. The team selection for the match was also discussed and debated. Leaving aside the merits of the issue, what is refreshing is the fact that the subject was discussed at all, with even a former India men's team captain commenting on it. For long the performance of the women's team was completely ignored in this cricket-crazy country. This is beginning to change.

Often the 'women and cities' discourse is restricted to women's safety in the City and to discussions on how 'women-friendly' are our cities. The debate is around how to make our cities safer for women and so on. There is little talk in terms of affirmative action for promoting women's participation in business, governance and society at large. In the corporate world even some of the world's topmost corporates seem to fail the gender diversity test. 12 of the top 500 corporates had not a single woman director on their boards as of last year, reported Fortune. In India after the law made it compulsory to have at least one woman director came into force, some corporates complied more in letter, it seems. They simply appointed lady family members of the promoters as a director, just checking the box so to say. Now there is a recommendation that there be at least one 'independent' woman director. So it seems often even the enlightened corporate world observes gender diversity philosophies only because they need to comply, or not to be seen as discriminating against women; not because they genuinely believe that women can bring in different, fresh perspectives and value to the board's functioning. Several corporates argue that there is not enough woman talent. However, enrolments at the Indian Institute of Management, Ahmedabad, one of the institutions which prepare business leaders of tomorrow, saw the highest ratio of women enrollments for its 2017-19 PG program, without any quotas.

The World Economic Forum Gender Gap Index 2017 ranks India lowest among the BRICS nations, but higher than Japan. European countries rank quite high. The index measures economic participation and opportunity, educational attainment, political empowerment, and health and survival.

There is need to increase women's participation in all aspects. While mandating certain quotas for women or demanding certain amount of representation may have only a limited impact, it could be a way to kick-start the process. Apart from corporate boards as seen above, we have seen it in local bodies where 33% seats are reserved for women. Here the women often serve as proxies of male
family members. While this may not be the most desirable way, it is still better than having no representation at all. This will enable compulsory minimum presence until momentum is gained and the movement gathers steam. There is need for not just removing barriers to women's participation but to actively promote their contribution to a better society and reap the benefits. As Margaret Thatcher said, “If you want something said, ask a man; if you want something done, ask a woman.”

In this issue of Urban World we have papers on a variety of subjects on the Urban Woman.
Investigating the Policies and Practices of Teaching Menstrual Hygiene Education to Schoolboys in India

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Abstract

Menstruation causes many problems for women and girls globally, the severity of the issues varying depending on their individual and social context. The main concerns include access to appropriate toilet facilities at home, school or work, access to proper menstrual hygiene management (MHM) materials and education as well as dealing with the social stigma and taboo surrounding the subject. These shortcomings can lend themselves to a plethora of different problems, including girls ceasing to attend school once they experience menarche. In an attempt to ensure girls do not leave school when they begin menstruating (amongst other concerns), The Government of India released National Guidelines on MHM in 2015. The Guidelines emphasise the importance of educating both boys and girls about MHM in order to eradicate the social stigma and encourage girls to feel more confident in managing their periods within the school environment. To understand the level of education given to schoolboys, and the attitudes towards it, this study consisted of semi-structured interviews with teachers from six state schools in Mumbai. Regional Centre for Urban and Environmental Studies (RCUES), Mumbai was associated with the study as knowledge partner, and the interviews at the schools were conducted in collaboration with the RCUES team. Although a local NGO is conducting MHM education and a sanitary pad distribution and disposal scheme for girls, this education is not yet a part of the syllabus, therefore excluding boys and reinforcing the notion that menstruation should not be openly discussed with everyone. All of the teachers interviewed recognised the importance of educating both boys and girls on the different facets of menstruation and MHM and highlighted the barriers as to why it has not yet been included in their school's syllabus.

1. Introduction

People who menstruate (mainly women and girls, as will be described in this article, whilst recognising that not all women and girls menstruate, and that non-binary and transgender people may menstruate) require adequate, affordable and hygienic materials to manage their periods in a way that they feel comfortable and dignified. They also need the space and facilities necessary to check and change menstrual materials, wash themselves, and wash or dispose of menstrual materials at home, work, public spaces and/or
school (Sommer, 2015). Unfortunately, whilst managing their menstruation, many women and girls around the world encounter social stigma and negative cultural beliefs associated with menstruation. Not only can these ideas perpetuate sexist stereotypes and devalue women and girls, they also prevent the topic from being discussed. Silence on this topic contributes to a lack of access to the facilities women and girls need, and reinforces gender gaps (Allen et al., 2011). Although problems with access to appropriate menstrual hygiene management (MHM) materials and facilities, as well as negative attitudes towards menstruation (and those that menstruate) are global issues, this study focuses on India, a country where 23 million girls drop out of school every year once they experience menarche (Dutta, 2018).

1.1 India's social and cultural beliefs surrounding menstruation

The issues surrounding menstruation are global; the obstacles are not limited to low income contexts. Notwithstanding, India is a country infamous for its relationship with poor sanitation, menstruation-related myths and arguably, therefore, a failure to provide girls and women with the facilities, knowledge and support that they require to carry out proper MHM (Chambers, 2013; Garg & Anand, 2015). Garg and Anand (2015) argue that the mere mention of menstruation in the country is taboo and it is this that is prohibiting the country from advancing both in attitudes towards menstruation and access to MHM. They go on to discuss certain misconceptions prevalent in the country, such as that periods make a woman 'impure', and as a result they should be kept from carrying out certain daily practises such as visiting their place of worship, taking a bath, preparing food in the kitchen or touching a man. Not only do these beliefs define and constrain the roles of women within the community, but by associating periods with dirt, secrecy and otherness, negative ideas about menstruation are harboured and the topic continues to fail to be discussed, resulting in a country that provides some women with little or no access to MHM materials, facilities and knowledge (Shanbhag et al., 2012).

1.2 Problems with access to proper MHM in India

Many women and girls in India, particularly those in poorer rural settings, will use cloths to manage their menstrual blood, which may then be cleaned, dried and reused (Garg et al., 2001; Dube and Sharma, 2012; Khanna et al., 2005). Cloths are less absorbent, and often less hygienic, than disposable pads, potentially leading to reproductive health problems (Das et al., 2015; Torondel et al., 2018), as well as to girls feeling less protected at school, hence increasing the chances of them missing class or dropping out altogether (Dube and Sharma, 2012; Khanna et al., 2005; Banerjee, 2017). Having periods necessitates a greater need for privacy, for example, adequate toilet facilities, the lack of which results in embarrassment, poor hygiene practises and also an increased risk of sexual and/or violent assault (Hulland et al., 2015). In the school environment, a lack of appropriate facilities (i.e. gender segregated toilets and sinks to wash hands/cloths in) dissuades girls from attending (Kirk & Sommer, 2016). A further barrier to proper MHM is the lack of formal education on the physiology and management of menstruation (The Government of India, 2015). In a study of girls living in an urban slum in Jaipur, Rajasthan, 73% reported not having any awareness of menstruation before or at the time of their first period (Rajagopal & Mathur, 2017). The reasons for this were twofold: a lack of awareness by their mothers and teachers themselves, as well as the social pressure to keep the subject hidden (Garg et al., 2001; Rajagopal & Mathur, 2017). Consequently the experience remains distressing for young girls; their questions remaining unanswered (or perhaps more aptly: unasked) and notions of secrecy and shame of their bodies engendered (Peranovic & Bentley, 2017). These three insufficiencies (lack of
MHM materials, adequate toilets and information) all fail to create a school environment that is compatible with girls' needs, causing them to miss out on their education, and as a result, be more likely to undergo child marriage and experience early pregnancy (Allen et al., 2011; Government of Rajasthan, 2017; Rajagopal & Mathur, 2017).

1.3 Current policies on MHM education in India

The Government of India released National Guidelines on MHM in December 2015. The importance of educating both boys and girls within schools is highlighted in order to break down the social stigma of menstruation, allow girls to discuss the topic without shame, and ultimately equip girls with the tools they need to manage their periods with confidence, ideally leading to better retention of girls in school (Government of India, 2015). The Government of India recognises that in order to break down the social stigma, the whole country, not just women and girls, needs to be educated on the subject. A framework in the Guidelines demonstrates how effective MHM can be brought about (Figure 1). By encouraging “societal, community, family and individual awareness”, a cumulative “access to knowledge and information” can be granted, which ultimately results in “dignity for adolescent girls and women” as well as “the ability of adolescent girls to stay in school during menstruation”.

Figure 1 – Menstrual Hygiene Management framework, The Government of India, 2015

The Guidelines stress the importance of educating both boys and girls on the subject within schools saying that “men and adolescent boys must have awareness, knowledge and information” in order that “menstruation is understood and can be managed safely with confidence and dignity” (The Government of India, 2015, p. 3). By “sensitively” involving boys and male teachers there will be a “positive effect on how girls feel” seeing as a “supportive community at school will help girls to deal with issues around menstruation more confidently for the rest of their lives” since they will be “free from ridicule and treated with respect and dignity” (The Government of India, 2015, pp. 3-22).

So as to understand what is being taught to boys in Mumbai, Maharashtra, this study used semi-structured interviews with school teachers from six different state schools to explore the status quo of menstruation discussions within the school environment, the formal education provided on menstruation, and the potential impacts of educating boys about menstruation.

2. Methodology

2.1 Research design

Semi-structured interview questions were developed such as 'Have you ever witnessed the boys teasing the girls about menstruation or vice versa?', 'Where do you think boys learn most about menstruation?' and 'How do you think boys having more education on menstruation would impact girls?' The qualitative approach is principally beneficial for research on topics for which little has been previously explored (Corbin & Strauss, 2008). Likewise, semi-structured interviews are constructive in giving direction to the research yet allowing flexibility and space for greater exploration of opinions (Fylan, 2005).
2.2 Participants

Six state schools were identified by the knowledge partner, the Regional Centre for Urban and Environmental Studies (RCUES), Mumbai. RCUES team organised visits to the schools and acted as translators during the interviews. Although the project had been designed to interview both male and female teachers, due to the apparent male discomfort with the topic, only one male teacher was interviewed, compared to twelve female teachers. Nine participants were interviewed individually and four were interviewed in pairs. Before the interview began, the interviewee was given an explanatory statement to read and confidentiality and consent forms to sign in English. If they were not able to fully comprehend these in English, they were verbally translated into Hindi by the RCUES team. The interviews lasted from 15 to 45 minutes and were conducted in both Hindi and English, depending on the preference of the interviewee. The interviews were recorded using a Dictaphone and later translated and transcribed into English.

2.3 Data analysis

Nine themes emerged inductively as the interviews were analysed. The responses were sorted into these nine themes and further dissected into the sub-topics, which arose. Similar opinions in the sub-topics were then grouped. The themes that emerged from the interviews helped to categorize themes found in the literature so that comparisons could be drawn between the two.

2.4 Ethics

The Mathematics and Physical Sciences (MaPS) and Engineering Joint Faculty Research Ethics Committee at the University of Leeds granted ethical approval for this research (MEEC 17-018).

3. Results and Discussion

3.1 Differences in education given to girls and boys

Neither the girls nor boys were being taught about menstruation through the curriculum, but the girls were receiving classes on MHM through a monthly pad distribution and disposal scheme. The scheme, called 'Pad Bank', is taking place in 52 low-income schools in Mumbai (including the six visited in this study), set up by an NGO called the TEE Foundation. Although considered successful in keeping the girls in school and allowing for improved MHM, the boys were not only being excluded from the classes but also kept from knowing about the scheme's existence at all. Many studies, in various countries, have found that when it comes to sexual and reproductive education, girls are taught more than boys, even when boys express a desire to be educated further (Allen et al., 2011; Peranovic & Bentley, 2017; Chang et al., 2012). By not including boys in menstrual health education, not only does the topic remain taboo to discuss between both genders, but the notion that women's issues are irrelevant to men is also instilled (Peranovic & Bentley, 2017).

3.2 Menstruation as a taboo subject

All of the teachers recognised menstruation as a silent topic both in the home and in the school environment, similar to many other studies on perceptions of menstruation around the world (Allen et al., 2011; Wong et al., 2013; Chang et al., 2012). Many of the teachers suggested that it is the parents' attitudes that is impeding education, for instance, with complaints of their children learning “too much” when one teacher drew diagrams of the male and female anatomy on the board during biology class.

3.3 Where the boys currently learn about menstruation

The teachers admitted that their male students were gaining little to no education of the subject at
school or at home, so their main source of information lay with the media or older friends, only providing them with “half-baked” knowledge.

When they are denied information from school or parents, naturally boys will seek answers from other sources such as the media or older friends (Allen et al., 2011). The teachers were aware that this is not a productive way of learning and that it could even be dangerous, as the Internet may lead them on to inappropriate and incorrect content. This can be damaging as warped, biased or misguided information can be relayed to give wrong ideas about the subject and thus create a further gap in knowledge (Hoerster et al., 2003).

3.4 Boys' attitudes and knowledge

The interviews undertaken were not with the male students themselves, nevertheless the teachers speculated on the shared ideas of their students and the Indian male collective. They expressed their opinion that male students believe the notion that menstruation is insignificant to men and should be kept hidden, enforced by the educatory exclusion of the subject that the boys face both at school and at home. In the literature on global male perceptions of menstruation, the common themes that emerge are that it is considered dirty, shameful, insignificant to men, should be kept hidden, makes women other and/or lesser than men, that men have misguided knowledge and that it can be used as a tool to demote women and enforce sexist stereotypes (Allen et al., 2011; Peranovic & Bentley, 2017). The teachers had observed that some of the boys would distance themselves from a girl if they knew that she had started or was on her period, encouraging the girls even more so to keep their experience a secret. Some boys would instead use the little knowledge they did have to tease the girls. The teachers conjectured that these acts stemmed from embarrassment and an attempt to learn more about a subject they knew was forbidden to them. It was arguably telling to observe the reactions of the male teachers, having set out to gather a range of interviews from both male and female participants but eventually only attaining one male perspective, all but one of the male teachers who initially showed interest in being interviewed withdrew upon hearing the nature of the topic. It can be reasoned that the young male students, deprived of a relationship with the subject of menstruation, will grow into men who believe that it is not their responsibility to understand it.

3.5 Girls' attitudes

The teachers noted that a lot of their female students were still ambivalent about the subject and would be too shy to even discuss it at home with their mothers, and definitely not with their fathers. In school, they may go to the teacher if they have a problem, but would wish to keep it hidden out of fear of being either teased or isolated by the boys. Most interviewees agreed that the reason that the pad distribution scheme is kept a secret is to protect the girls and that, despite feeling the duty to disclose the correct information to their male students when quizzed, they had to respect the wishes of the girls and not divulge too much about the process they were experiencing. Similar to some accounts in the Allen et al. (2011) study, the teachers speculated that when the girls are older and more confident they start to open up about their periods and use their superior knowledge to mock the boys. Although refreshing for the girls to have an upper hand on the situation, the power play still plays to the idea that boys should be afraid of or uninvolved with menstruation (Allen et al., 2011).

3.6 Teachers' attitudes

Although some more enthusiastically than others, every teacher interviewed agreed that the process of menstruation and MHM should be taught to both boys and girls as part of the curriculum, many saying it is their “responsibility” as educators to impart knowledge to both sexes. The comfort and
awareness that the majority of the teachers in the study showed in discussing the subject is contrasted with the Mason et al. (2017) study wherein the Indian schoolteachers were more discomforted than their male students, who wished to learn more, or those in Chang et al.’s (2012) study in Taiwan where the teachers would perpetuate certain stereotypes of their menstruating female students, such as that it forces them to become disobedient and vicious “like tigers” (p.518). When the female teachers were questioned on whether they would feel comfortable in teaching both genders themselves, six said they would. The other six were apprehensive, saying they would feel more comfortable to only teach the girls, but that they would overcome their embarrassment if they had to. The one male teacher who was interviewed said that he could teach the boys about the subject, but not the girls. All of the teachers said that they had enough knowledge to pass on the correct information to their students.

3.7 The best ways of teaching boys about menstruation and MHM

The teachers agreed that it was the educational system's responsibility to not only educate both sexes on the physiology and management of menstruation but also to “address the cultural ideology of menstruation and deconstruct negative messages about women's bodies” (Allen et al., 2011, p. 153). There were mixed opinions on whether the girls and boys should be taught separately or together. The most agreeable option came to be that they should be taught separately at first, where the girls could be made to feel more comfortable, and the boys could be sensitised to the subject and the importance of maturity and understanding they needed to practise around the girls. The teachers agreed that the amount of information given to the boys should correspond to their age and that the best age to start teaching them about it is at 13 to 14. Mixed opinions were also given on who was the best person to teach them in school: a healthcare professional, female teachers, male teachers or teachers corresponding to the gender of the students. It was decided that a multifaceted approach should be used to teach the children, including workshops, open discussion, lectures, role-plays and shared experiences.

In this study it is evident that the teachers, NGO and Government all want to work towards the same goal, but that perhaps more sectors or powers need to be involved to reach the desired outcome. Rajagopal & Mathur (2017) deduce that a “multi-sectoral approach is essential” by influencing and congregating with various government systems across WASH, reproductive health and education to “reach out systematically to adolescent girls and boys with relevant information” (p. 315). Garg et al. (2001) suggest that to deliver adequate information effectively, it is necessary to “develop innovative ways of overcoming parental and community resistance in the design of programmes and services” and that the teaching of these subjects should be foreseen as a long-term, continuous process. They also suggest that it is imperative to include a range of powers in the community, incorporating government, NGOs, researchers and teachers to address the needs of the young girls. One factor that might be preventing the work from progressing further may be the parents who will readily complain when they fear their children are learning the “wrong ideas”. The teachers suggested that the parents should also be sensitised to the subject and taught the importance of why both their sons and daughters need to learn about MHM.

3.8 Impacts of boys learning about menstruation

Overall, the teachers inferred that boys learning about menstruation and MHM would have a positive impact on their female students by discouraging teasing and creating a more comfortable and equal learning environment, as well as shift the collective male perceptions of menstruation as the next generation enters
adulthood. They also highlighted how the new knowledge could surpass the boundaries of school and that it could create the opportunity for boys to help and support their female friends and family at home, saying that “if a child is able to do that, that is what education is to me.” This concurs with one of the messages of the Swachh Bharat Mission (2017), which states that “children can be effective sanitation communicators to spread the message of safe sanitation to all” (p. 8). These ideas are supported in the literature, with Merskin (1999) feeling that the education of menstruation has become a significant battlefield, contending with the determination to challenge and surmount gender inequalities both in school and outside.

3.9 Changes in education over time

The interviewees noted some positive changes from when they were at school as students to now, as teachers, such as a slight shift in attitude, girls being less likely to miss school due to their periods and the subject being talked about more freely. Some teachers attributed part of this development to the movie ‘Padman’ based on the true story of Arunachalam Muruganantham, a man who created a low-cost sanitary pad-making machine for women in the poorer communities of rural India, speculating that the NGO programme within the schools may have been encouraged by the story. While the TEE Foundation is doing a valuable job of educating the girls, it is evident that the message from the Government that MHM education is important for both sexes has been lost, with the boys still being excluded from the knowledge (Government of India, 2015). The national curriculum was last updated in 2005 and was due to be revised this year (2018), with some teachers being hopeful that menstrual health education would be added in the updated version. One teacher who felt passionately about the subject said that she hopes that as the conversation is being had more frequently, the message will continue to “trickle down” from the top to the grass-roots levels.

4. Conclusion

By neglecting the education of boys about menstruation and menstrual hygiene, the idea that women's health issues are irrelevant to men is inculcated, the stigma and taboo surrounding menstruation is sustained and society remains a place that is not commensurate with women and women's needs. This creates many issues including the perpetuation of sexist stereotypes, girls missing out on their education and the enforcement of gender roles, all of which contribute to preserving the gender gap. The lack of education accessible to boys causes them to develop a variety of negative attitudes towards menstruation and menstruating women, including that it is not a matter of concern for them, that it is disgusting and should be kept hidden and that it debilitates women and makes them weaker. This produces many problems for women on a personal and societal level, such as shaping how certain institutions run. It is for these reasons that all of the teachers attested to the importance of educating both their male and female students on the different facets of MHM, not only to create an accommodating school environment for girls, but also to tackle the stigma and taboo surrounding menstruation that is the root cause of inadequate access to the facilities girls and women require throughout the country. This is not solely an issue prevalent in communities of India, but a global issue, and unless it can be seen and discussed as a human issue, involving both men and women, girls and boys, no further changes can or will be made. As the Government of India say in their Guidelines on MHM, “what cannot be talked about, will not change” (The Government of India, 2015, p. 5).

References


Urban Women and Mental Health

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Introduction

Women's Movement has provided fresh inputs in terms of individual and group counselling, popularly known as “Consciousness raising” exercise, a form of mutual counselling that enables women as a group to share experiences, problems, feelings, dreams, utopia and action plan for rebuilding shattered lives. This process of attaining feminist consciousness allows women to recognise that what they perceive as personal problems are shared with others in a non-threatening and non-power oriented atmosphere. It also enables women to realise what they think of as resulting of living in patriarchal society. “Consciousness raising can be seen as enabling women to overcome false consciousness.” It empowers women to come to a realisation of their own potential, makes them autonomous, self-dependent in their decision-making power and emotionally self-reliant. It is an ongoing process that brings about personal and collaborative change as opposed to structural change. The need for small groups/ informal group discussion is emphasised in this method.

Manifestations of Depression

Depression in women manifests in headaches, sleepless nights, constant tension, detachment, irritability, loss of appetite, dryness of mouth, fear, self-blame, lack of concentration, and lack of interest in any kind of activity. Although chronic headaches may not be psychosomatic, they can be caused by depression or anxiety. Thus, counselling can help you identify and address emotional concerns and should be considered as part of your treatment.” There are two types of stressors leading to mental disorder. Biochemical stressors are hormonal fluctuations at the onset of puberty, pre-menstrual phase, post partum phase and menopause. According to Dr. K Ravishankar, Estrogens have an effect on brain chemicals like serotonin and nor epinephrine that are involved in headaches. An imbalance in serotonin levels has, in fact, been implicated in disorders like migraine and depression.”

Psychosocial stressors originate from the external social environment such as women's inferior social position, lack of power, homelessness, economic hardships, man-made or natural disasters. They create learned helplessness (women's seeming passivity in the midst of crisis such as domestic violence, accidents, etc) and reduce motivation to lead an active life. Stress related mental health issues are illness in the family, death of one's spouse, divorce, accident that might reduce or destroy women's ability to shoulder responsibility. After marriage, women get displaced which brings about cultural loss and bereavement, loss of social networks and supports, loss of traditional healing sites. Psychological stages through which women pass are –enduring, suffering, reckoning, reconciling and normalising. The successful completion of therapeutic cycle depends on how
conducive the physical and emotional systems are. Sometimes hysteria can also open up more opportunities and increased freedom/space with added costs. Women cope with tension by crying, talking it over, praying and engaging in creative work-music, art-craft-reading-studies-community work, team building.

**Approaches to Mental Illnesses**

Universalist ETIC approach uses diagnostic categories of mental illnesses such as neurosis, schizophrenia, psychosis, mania, phobia, paranoia so on and so forth. Psychiatric labelling does not take cognisance of material reality faced by women on day-to-day experiential levels. It obscures social reality such as riots, natural disasters, fire and accident while dealing with phobia among women. While working with women victims of riots, we should know that their phobia about men has a basis in the fact that they have witnessed killings and rape. Hence, medicalisation of mental health in the Draft National Health Policy 2001-III has been criticized by women studies.

EMIC approach emphasises cross-cultural psychiatry and evaluates phenomena of mental illness from within a culture. Traditional treatment of the mental illness used to be meditation, yoga, group singing and listening to the discoursor. A Culturally sensitive counselling on mental health consequences of trauma take into consideration women's socio-cultural environment.

ETIC-EMIC debate gave way to new cross cultural psychiatry where the emphasis lay on the different contexts of mental illnesses in different cultures, not on bio-medical categories. Now, there are no two opinions about the statement that psychotherapy should keep into consideration multicultural aspects of women's existential reality.

Psychiatrists use chemotherapy i.e. administration of anti-depressants and sedatives, shock therapy which induces shock, with or without convulsions, in a patient by means of insulin or electric current through brain. Individual psychotherapy includes hypnosis, suggestions, supportive therapy, re-education, desensitisation and other forms of consultation, group psychotherapy, family therapy and psychoanalysis.

**Four phases of Healing Cycles**

1. Enduring- anxiety, grieving and loss of past
2. Acceptance- reality testing, preparedness and reckoning of the future reconciling, evaluation of self and resources, recuperating
3. Recovery-rebuilding life, maximising options, setting new goals, healing
4. Normalising-stability and routines, building relationships and community

Unequal relationship between professional counsellor, who is UP THERE and the seeker, who is DOWN BELOW creates a communication gap. In case of women, this inequality is compounded by subjugation of women by the patriarchally structured psychiatric system. Focus on 'feminine qualities' pathologises all physiological changes of a woman, in childhood, adolescence, reproductive age and menopause.

Philosophical basis of psychiatry as a bio-medical discipline prevents the mental health professionals to take into consideration larger reality and macro issues resulting from socio-economic and political factors. Psychiatry focuses on treating the individual symptom while ignoring the disease. 'Diagnosis' frequently arouses protests of indignation about labelling people as ill and treating them as impersonal objects. Limitations of bio-medical perspectives lie in their narrow focus on somatic and psychological factors in their diagnostic efforts, ignoring the impact of socio-cultural and socio-demographic factors. In India, the focus is more on the treatment of the illness, not on preventive and promotive efforts. Marginalisation of mental health concerns results from the understanding that mental distress is a
manifestation of an individual problem, not directly related to social oppression and not common to all women.

**Worsening Socio-economic and Political Situation and Mental Health of Women**

Experiences from both industrialised and developing countries have revealed that the prevalence of common mental disorders or minor psychiatric morbidity is high among the urban low income and marginalized population. Women among them are even more vulnerable. Globalisation, structural Adjustment Programmes, increasing conflict with neighbouring countries and ongoing sectarian violence on caste, ethnicity and communal lines within the country\(^{10}\) have put the population of our country at high risk of mental illnesses.\(^ {11}\) Alert India is a large NGO with 550 community workers working among the marginalized sections of Mumbai metropolis. Their women health workers found that women who have to deal with financial hardship, experience tremendous stress. Moreover, women within community are affected differentially depending on their own place in the Indian socio-economic hierarchy. In this regards, female-headed households are most vulnerable to mental distress. The mental health professionals are only geared for the episodic disasters and not the enduring disasters. Hence, there is a need for interdisciplinary mental health interventions.

Professional counsellors act as facilitators in Self Help Groups (SHGs). They use the technique of mutual counselling to identify areas of strategic interventions.

**Need for Culture Specific Approach in Counselling**

Respect for basic human rights demands that the counsellor addresses the issues concerning cultural mindsets and behavioural variety that determine women's mental responses to tragedies. If this variety is not appreciated, counselling will end up being reductionist and homogenising. Here the soft wear is not formal education, but life. Mental health of women victims and survivors of tragedy demands multifaceted approach. Individual counselling by the professional counsellor can be helpful in breaking ice. At the same time, women with similar experiences can empower each other by narrating their problem areas and finding solutions.

**Patriarchal biases of the Mental Health Establishments**

The mainstream mental health professionals are unable to impart the required counselling to women due to misogyny. Stereotypical understanding about women's role in the family and society governs their psyche and if the so-called "mentally ill" woman does not fit in that mould; she is declared 'socially incompetent' woman. Witch hunting of lesbians by the mainstream psychiatrist is so strong that even All India Institute of Medical Science has a special package for counselling, “to correct deviant behaviour” of the lesbians. Subordination- domination relations between men and women are re-emphasised in the mainstream counselling.

**Sexual Violence and Mental Health**

Sexual assault, molestation, rape, sexual harassment at workplace, child sexual abuse, nuisance calls cause psychological disturbances among girls and women. The trauma of sexual violence sparks off tension and anxiety at a dangerous level. Their mental health problems are manifested in anxiety, fear, avoidance, guilt, loss of efficiency, lack of coordination, depression, sexual dysfunction, substance abuse, relieving the traumatic incidents through memory, suicidal attempts, eating disorders, disturbed sleep patterns, fear of encountering such situation once again. It is found that “women who undergo extreme sexual
violence experience a loss of self and self-esteem following the shock inflicted on them. When there is a continuous period of traumatic stress, it becomes chronic, lessening the individual's ability to do any kind of constructive work. Hence, this form of male violence towards women is an important issue that demands public attention. Women's organisations have taken up this issue at a local, national and global level.

**Domestic Violence and Mental Health of Women**

Discourse on mental health of women in the family situation gained serious consideration in the context of campaign against violence against women. In domestic violence situations, predicament of women is determined by their position in power-relations vis-à-vis the rest of the family members. Many social work researches which attribute deviant behaviour of adolescent girls to their working mothers guilt trip women by narrowly focussing on single parameter and ignoring factors such as peer -pressure, media, overall standards of morality in our society and power relations in the nuclear/ joint family. Such researches are used by some counsellors to cage women into domesticity and divert the attention from generation of genuine support system for developmental needs of the daughters of working mothers. Women's rights organisations which are doing support work for women in distress have started giving due importance to counselling.

**Adolescent Girls and Counselling**

The most mind-boggling problems faced by adolescent girls are decision-making in the day-to-day life, self- dependence and career. Rapid changes in the socio-economic and cultural reality, parental expectations, values and norms, rising levels of competition and pressure during examination time and a break down of traditional family structures are factors that accelerate this alarming trend. Examination related anxiety results into sharp rise in girls hurting themselves deliberately, leaving homes or killing themselves. Fear of failure is a root cause of all qualms. Large number of students and their parents are seeking professional help. Consulting a psychiatrist is no longer a taboo as the psychiatrist responds to cries for help from a crippling academic burden. According to them, we have more problem parents than problem children. Providing good and healthy role models is very important. Parents who want their children to develop high self-esteem should make a point of treating them with respect and dignity. Concept of fiscal hygiene is important for girls to understand the value of clean money earned through hard work. Today's adolescent girls are at the crossroads. But every crossroad leads to new roads. Information revolution has made adolescent girls more aware and precocious. They have to enhance their knowledge base. Broadening one's personal horizons is a sure way of tackling the crisis within oneself. Today’s girls find the values instilled in them since their childhood, hollow in real life. Romance is found utilitarian and consumerist. The economic security is bleak, emotional security is becoming a victim of uncertain times. Globalisation has led to the emergence of apparently homogeneous life-styles, necessities and comforts through media-images, whereas the reality of life is pathetically at variance with resources required to maintain such a life. This has further deepened the crisis of the youth. Dictatorial atmosphere in the family, educational institutions and in the community life, make adolescents feel left out of the decision-making processes affecting their lives. Hence it is very important to understand that,

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"Inclusion is trend,  
Such as democracy,  
Freedom and justice for all.  
All means all,  
No buts about it.  
Inclusion is opposite of exclusion.  
Inclusion is no to boycot.
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Inclusion is a battle cry.  
Challenge to the parents,  
Child's cry for his/her existence…  
For welcome, for embrace,  
To be remembered fondly…for award  
For gift of love…like surprise,  
Like treasure.

Inclusion means clean game,  
General knowledge, courtesy, hard work.  
Inclusion is great in its simplicity,  
And surprising in its complexity.  
Instead of investing in jails, mental asylums, hospitals, refugee camps,  
To canalise resources for creating true homes,  
True life, true human beings…  
For humanising life.

Marsha Forest

Both in private and in the public spheres, we need to give more space for development to the adolescent girls.

Counselling for Substance Abusers

Support resources for substance abusers are counsellor, family members, significant peers and school or treatment staff. Group therapy is an effective intervention method with abusers. It facilitates the process of recovery of addicts. Sharing of experiences by the abusers shows them ways to empower each other. Self-help groups of abusers are more effective as they avoid problems generated due to different wave-lengths.

Counselling for HIV-AIDS Patients

This is very important issue faced the 21st century. Counselling for dealing with social stigma and creating an alternate support network are the most important aspects of providing emotional support to the HIV-AIDs patients. The Lawyers Collective HIV/AIDS Unit holds monthly drop-in meetings, with an objective of sharing information, experiences and resolve mind boggling issues affecting the lives of HIV/AIDS patients. It also provides legal aid and allied services to the needy. “The main objective of the Unit is to protect and promote the fundamental rights of persons living with HIV/AIDS who have been denied their rights in areas such as healthcare, employment, terminal dues like gratuity, pension, marital rights relating to maintenance, custody of children and housing.”

Electronic Media and Mental Health

People are inside the T.V. because there is vacuum outside the T.V. Different standards of morality for men and women are created by the film, television serials and advertisement industry. Boys and men who watch pornography are always on the look out for innocent adolescent girls. These girls are the victims of pornography, blackmail and physical/psychological coercion. Adolescent girls working, as domestic workers don't have any emotional support, as there are hardly any television and radio programmes for non-student urban youth. Dehumanisation of women can be prevented by promotion of women's agency in the media so that women can lead intellectually, psychologically and emotionally self-sufficient life.

Counselling in the Shelter Homes for Women

The most promising solution to confusion and disorientation among the women inmates of shelter-homes is a democratic space for brainstorming as autism is one of the main problems faced them. Informal set up is more congenial to their personal and career counselling. Workers at the shelter homes for women and girls need to be made to understand that behind every behaviour, there is a story. It is important for them to know the story. Panel of psychotherapists and psychoanalysts in the shelter homes should also conduct the staff development programme so that the staff can handle post trauma stress disorder among the inmates with empathy rather than resorting to victim blaming.
Mental Health and Reproductive Rights of Women

Societal attitude towards Indian women as son-producing machines creates painful mental problems for women. Woman's body is de-linked from her subjectivity. Pre-menstrual syndrome (PMS) and Post Partum depression (PPD) are regarded as general complaints concerning women's reproductive abilities. Weapon of Pre-menstrual syndrome as a debilitating factor has been used to run down women in the family and at the workplace. PMS is a political category, which conveys that biology is destiny for women. Instead of focusing on the genuine issues concerning premenstrual discomfort in terms of fatigue, headache, cramps, headaches resulting in to depression and crying spells, PMS provides reductionist and reactionary explanation for women's discontent. Women don't have right to decide, how many children should they have and at what interval. New reproductive technologies have robbed women of their individuality and reduced them into spare parts for either scientific experimentation and/or sale. NRT values women only for their ovaries, uterus, foetus, that too preferably male. NRTs have caused tremendous psychological burden on women in the arena of sexual activity for procreation or only for recreation without procreation with the help of contraception or abortion. Researches over last 3 decades have highlighted mental problems associated with repeated induced abortions, long acting hormone based contraceptives or conception inducing drugs.

Instead of using humane healing techniques of music, fragrance, get to gathers to deal with discomfort during pregnancy and post-partum depression, bio-medical intervention of giving tranquillisers and electro-convulsive therapy are promoted by the psychiatrists. This is the most vulgar example of the medicalisation of the natural processes of women's bodies. Gender sensitive training programmes should be organised for medical officers of primary health centres and women health workers adopting perspective promoted by the UNFPA.

Menopause and Mental Health of Women

Many psychologists have attributed harassment of daughter-in-law by her mother-in-law to menopause. But it is not true for all women. Many women find it a liberating experience to stay with their in-laws. It all depends on how society and family treat an aging woman. Pathologisation of menopause and negative attributes given to “old hag” (sadeli buddhi) experienced by women are responsible for identity crisis and depression among women during this period. Here, the role of counsellor is to recommend activities for self-actualisation and a healthy diet and vitamin supplements to menopausal woman. Exercise is very important to increase conversion of androgens to estrogens.

Women and Epilepsy

Disability and impaired quality of life caused by epilepsy can be reduced by “psychiatric and psychosocial referral counselling on how to live with refractory seizures and advise on vocational rehabilitation.” Persecution and discrimination against epileptic women should be prevented by giving scientifically accurate public education through mass media. For the curriculum of community workers training programme, module on epilepsy, seizure, convulsions should be incorporated.

Mental Health of Women Senior Citizens

The most talked about problem concerning mental health of elderly women is dementia i.e. “loss of cognitive functioning, memory, language abilities, abstract thinking and planning”. Dementia is often reversible. Irreversible dementia can arise due to amnesia, Huntington disease and Alzheimer's...
disease (AD). Modern medicine treats this problem with estrogens replacement therapy, non-steroidal anti-inflammatory drugs and vitamins. Feminist senior citizens deal with mental problems of elderly women by providing spiritually rich and emotionally and intellectually stimulating group life to them. Discourses, singing, outing, social service, meditation and mutuality and reciprocity in human relations make great contribution towards their mental health. Vardhana, a group of feminists has defined women above 60 years of age as “Women of Age” and has provided a democratic and development oriented platform to Women of Age. 

Mental Health of Women in the Mental Hospital

Pathologisation of women by using diagnostic labels is a major cause of stigmatisation and ostracism for women. Women's groups are demanding that pigeon-holing of people into set slots must stop. Interaction with the mental health professionals is used by the family members and the community to declare the concerned woman “unfit” to live in the family, be a parent, function as an autonomous individual or take up a job. Husband's family uses the episode to dispose her of or debar her from property right or right to live in a matrimonial or parental home. “Madness certificate” of the mental health professionals are used by husbands to divorce, desert or throw out wives from their matrimonial homes. Women are admitted in the mental asylum as per the directives of the Mental Health Act, 1987 and Lunacy Act, 1912.

Iron wall of secrecy about the administration of drugs, surgery and ECT and their side effects needs to be condemned by citizen's initiatives and ethical medical practitioners. The long lasting side effects of biomedical approach need to be highlighted. Our mental hospitals need to focus on psychotherapy and counselling which involve therapies that produce positive results and no negative side effects.

Psychological Problems of Women in the Police Custody and Prison

Activists working on prison reforms have demanded humane code-of-conduct for governance of police custody and prisons, so that the inmates are not afflicted with permanent psychological scars. Solitary confinement of women prisoners takes away verbal articulation from them. Interpersonal violence among prison inmates can be reduced by counselling, group discussions and creative expressions. Women political prisoners should not be forced to stay with hard-core criminals in the custody or jail.

Role of Support and Self-help Groups (SHGs)

SHGs provide democratic space for rebuilding broken lives. Non-power oriented special interest groups provide stimulus for canalisation of creative
energy. Mutual counselling focusing on experience sharing without preaching or giving sermons can help psychologically distressed women reorganise their life and enhance their potential. Speak out Centres can provide platform for Community mental health intervention. Here comes the endorsement from an expert, “At the height of feminist activism in the 1970s and 1980s, there was excitement in the air as women shared experiences about themselves, their families, their lives and encounters. The growth of women's confidence and self esteem knew no bounds as they challenged established theories about law, work, justice, equality and medicine. They talked late into the night, wrote pamphlets, stuck wall posters, spoke at public meetings, filed writ petitions. They felt reassured that theirs was not an isolated or individual problem. The group's endorsement and sharing of painful experiences perhaps did much more for mental health than all medicines in the expert's books. The women's movement helped avert many breakdowns.” Enduring therapeutic engagement at community level can be group singing, festival celebrations, discourses on women's issues and public meetings.

**Developmental Input**

Cosmetic counselling offered by agony aunts is of no use. Breakthrough counselling is need of an hour. To make women's material reality more secure, liberating and healthy is the only alternative to get out of repeated attacks of mental illnesses. Developmental counselling aims at removal of chronic conflict situation in women's lives that is associated with high mental health morbidity. It is more than a remedial service. It believes that involvement, readiness and commitment on the part of the counsellor are necessary and basic conditions for counselling success.” It is concerned with the development and facilitation of human effectiveness. It increases self-direction and evolves better problem solving and decision-making abilities. This is the central axis around which feminist therapy or counselling revolves. It emerged in the wake of the women's movement as an alternative to hegemonic patriarchal mental health establishments which depended on biomedical approach to deal with the innate feeling of unhappiness in women. At the same time to evolve safety nets in the community and criminal justice system for protection from physical abuse. Budgetary allocation for medical aid to treat mental illnesses of women should be enhanced. Mentally ill women need legal protection in terms of property rights and right to dwelling place. We need to create protective environment in personal and public life to prevent mental illnesses among women. E.g. efforts to prevent man-made disasters such as riots, loot, rampage. Mental illnesses result into deskilling of the individuals concerned. Hence, there is a need to evolve a plan of action for the re-skilling based on their preferences and abilities. Half way homes should be created where; the mentally ill women can do productive work during the day and go home in the evening. After the recovery from the mental illnesses, they should be employed. Financial security helps in rebuilding their sense of self-esteem. The most successful healer is one who avoids victim blaming and provides patient listening. After talking / catharsis, the seeker feels better. Girls and Women with communication disability need special help. At the same time, “Reversing the process of alienation by consciously building community networks is a must. Mental health professionals should be seen in the community rather than in the secure institute or clinics.” avers a well known psychiatrist, Dr. Harish Shetty.

**Training Programmes on Counselling**

Sensitization and training of general practitioners and other health personnel to mental health, particularly, minor psychiatric morbidity (anxiety-depression) is a must. There is a need for social
counsellors at health posts and public hospitals who are in touch with NGOs providing institutional support to women in social distress. Sensitization of teachers, community workers, youth groups, women’s organisations is extremely important. Training sessions for professional and para-professional volunteers should focus on supportive networks, group cohesion and solidarity. Training should include modules on interviewing skills, history taking, mental-status examination. Electronic and print media should be trained in sensitising the general public about psychological response to violence and providing information about referral services as women and children affected by domestic violence, man-made or social disasters have special psychological needs.

Counselling ought to make women more aware about their problems and the oppression they face. Therapy can provide alternatives to deal with their problems. Counselling can be used to bring to the fore the cognitive facility required to recognise danger and threat to life, to assess the options and to leave if necessary, among women victims of violence. Counsellors have become astrologers. Counsellor should be proud with the arrogant and humble with the courteous. Don't do only supportive counselling. At times, you need to provoke. Role- playing is an excellent procedure for learning about counselling. Role- playing situations can be easily developed from the experience of people. The ethics of valuing and respecting others must be observed by the counsellor. Common characteristics required from the counsellor are concern, emotional investment, cognitive detachment, sensitivity and introspection. The counsellor should know that healing is a part of empowerment.

Conclusion

Civil society and the state should provide more and more opportunities to women of all age groups for self actualisation so that women can achieve high level of mental health. Respect for diversity, plurality and multicultural outlook ensure democratic and tolerant milieu that is conducive for mental health of women. As compared to institutionalisation based mainly on bio-medical intervention, community or family-based rehabilitation of mentally ill women based on human touch is far more effective.

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A Historical Analysis of Sex Selection Abortions in India

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Abstract

Sex selection abortions - Female foeticide is one of the most extreme and the worst forms of violence against women. It is a social problem that has spread unchecked across the world. Female foeticide is not only an offence but it is also a crime that reflects the cruel mindset of the family and ultimately of the society. The term 'missing women' has emerged as a product and the effect of all types of discrimination against women and girls in terms of their "Right to Life."

In the 19th and 20th century, there was a regular practice of female infanticide in India. Female foeticide is not a new issue but the form and nature of foeticide has changed due to modern and advanced medical science and technology in 1990s.

This paper evaluates historical journey of infanticide to female foeticide. It focuses on the historical links to the social evil. It examines the act of foeticide as a crime under medical procedures. It is based on archival data, Census Reports, United Nations Reports and Indian Penal Code procedures.

Historical Analysis of Infanticide in India

Infanticide was a traditional custom in India. The British had come to know of female infanticide in 1789. It was continued in the 19th and 20th century. The Census Reports till 1931 and the archival data pointed out the specific regions and specific castes that had the practice of infanticide. The British identified other high-caste communities as practitioners in north, western and central areas of the country. There was an alarmingly low ratio of female children compared to male children in Gujarat, Punjab, Rajputana (now in Rajasthan) and United Provinces (now Uttar Pradesh).¹ The practice of female infanticide was common among the people of Kutch, Kehtri, Nagar, Bengal, Miazed, Kalowries and Sindh in colonial India. It was not uncommon that parents threw a child in the River Ganges as a sacrificial offering. The castes with a much lower proportion of female children compared to males were: Lewa Patidars and the Rajputs in Gujarat, then part of Bombay Presidency; Jats, Rajputs, Khutris and Moyal Brahmins in undivided Punjab; Rajputs and Jats in Rajputana (now Rajasthan); Ahirs, Jats, Rajputs and Gujars in the United Provinces (now Uttar Pradesh).² The causes indicated behind the female infanticide custom included patriarchal norms and gender inequality of society, poverty, dowry, births to unmarried and widowed women, deformed infants, famine, lack of support services and maternal illnesses such as postpartum depression.

Female Infanticide Prevention Act, 1870

The British tried to prevent infanticide but it was very deep-rooted in society. So, the British, with the help of Indian reformers and Christian missionaries
sought to prevent it, and the Female Infanticide Act was passed in British India in March 1870, also called Female Infanticide Prevention Act VIII of 1870. It was a legislative act passed to prevent murder of female infants. It was initially applicable to the territories of Oudh, North-Western Provinces, and Punjab. The Act authorized the Governor General to extend the law to any other district or province of the British Raj at his discretion.

The Act VIII of 1870 created a police force to maintain birth, marriage and death registers, to conduct census of the district at its discretion, and enforce a special tax on the district to pay for the expenses and entertainment of said police officers. The Act also stipulated a prison sentence of six months or a fine of thirty thousand rupees, or both, on anyone who disobeyed or obstructed the police officers enforcing the Act.

Section 6 of the Act allowed the police officer to seize any female child from any person he suspects may neglect or endanger it, as well as forcefully collect a monthly fee from that person. After the act, the patriarchal Indian society started deliberate neglect of female infants. Nearly half of all mothers and newborns did not receive skilled care during and immediately after birth. Virtually all (99%) newborn deaths occurred in low and middle income families. Therefore the alarming female neonatal mortality ratio was high in the 0 to 1 years age group in the later half of 20th century. Causes of infant mortality were various, including medical, accidental, environmental, socio-economic causes, war, medicine and biology, economic conditions, malnutrition and cultural. There are circumstances in a number of developing countries and in India to breed a culture where situations of infant mortality due to favouring male babies over female babies is the norm.

Gender Favouritism

Historically in India, males have had higher infant mortality rates than females in 19th and 20th centuries. The difference between male and female infant mortality rates have been dependent on environmental, social, cultural and economic conditions. More specifically, males are biologically more vulnerable to infections and conditions associated with prematurity and development in comparison to female babies. Genetic components result in new-born females being biologically advantaged when it comes to surviving their first birthday. As infant mortality rates showed a decrease on a global level, the gender most affected by infant mortality changed from males experiencing a biological disadvantage, to females facing a societal disadvantage. A country's ethnic composition, homogeneous versus heterogeneous, explains social attitudes and cultural practices.

Before 1970, the reasons for male infant mortality were due to infections, chronic degenerative diseases and poverty. However, since 1970, the cultural preference for males has led to a decrease in the infant mortality gap between males and females. Also, medical advances have resulted in a growing number of male infants surviving at higher rates than females due to the reduction in infant mortality rate of males.

The Medical Termination of Pregnancy (MTP) Act, 1971

Measures have been taken to control mortality rate of women from illegal and or induced abortions in independent India by introducing the Medical Termination of Pregnancy (MTP) Act, 1971. It specified the reasons for which an abortion can be legally performed and the kind of facilities in which it can be carried out. The stipulated conditions are such that abortions are performed by trained doctors and not by untrained dais who are not
registered in facilities. They were not specifically approved for abortion services and so are termed illegal. While the intention was to provide women with safe, legal, timely abortion services, given the stringent nature of the Medical Termination of Pregnancy Act, many safe abortions were classified as illegal.

Abortion can be legally availed if a pregnancy carries the risk of grave physical injury to the woman, or endangers her mental health, or when pregnancy has resulted from a contraceptive failure or from rape, or is likely to result in the birth of a child with physical or mental abnormalities. However, the technologies that help detect abnormalities in the unborn child can also identify the sex of the foetus at no extra cost or effort.

**Amniocentesis- Technology Misused**

The All India Institute of Medical Science (AIIMS), New Delhi introduced the first method for detecting congenital deformities in a foetus in India in 1975. More methods to detect deformities in the foetus were introduced by the mid-1980s, such as amniocentesis, chorion villus biopsy, and now ultrasound sonography the most popular and easily handled by most medical personnel, which was being largely misused to determine the sex of the foetus. Once the sex of the foetus is determined, if it is a female foetus, it is aborted. In Maharashtra, Punjab, and Haryana the sex selection tests were widely used and became extremely popular and led to a mushrooming of private clinics all over the country which performed the tests.

Amartya Sen, the economist, argued that the primary cause for unequal sex ratios is discriminatory treatment rooted in the cultural preference for boys. Yet, the National Family Health Survey-II (1998-99) found that 13 per cent of the pregnant women self reported having gone for prenatal sex determination during the last pregnancy, amounting to about 3.6 million women having access to the technology. The discrimination against the girl child is systematic and pervasive enough to manifest in many demographic indices for the country. In India, the number of selective abortions of girls rose from 3.1 to 6 million in the 2000s. The 2011 Census of India found a worrying trend in child sex ratios with only 914 females for 1,000 males, a drop from 927 in 2001. Missing women are a matter of concern in the broader South Asian region, Social Institutions and Gender Index. As per the Indian Census 2011 report, the sex ratio of India (females per 1000 males) is as follows: Average India sex ratio is 933, rural sex ratio is 946, urban sex ratio is only 900. The state with the highest female sex ratio is Kerala with 1058 and the state with the lowest female sex ratio is Haryana with 861. Thus, we arrive at the conclusion that female foeticide is an evil in itself and it stems from the societal preference for the male child.

Other estimates by the United Nations Family Planning Association (2012), based on 2010 demographic surveys, found that the number of missing women in the world was as high as 117 million. A quarter century later, the 2014 Social Institutions and Gender Index (SIGI) findings show that over 90 million women are missing around the world. 80% of these missing women are from India and the People's Republic of China.

**Sex Selection Abortions**

Though historically, infanticide was practised in specific castes and communities, later in the 20th and 21st centuries, female foeticide became a social crisis that transcends all castes, classes and communities in India. Female foeticide, selective abortion, is the elimination or the killing of the female foetus in the womb itself by misusing the advancement of medical technology, carried out in many parts of India. It is an outcome of the gradual
degradation in women's position due to socio-economic and political factors. Girls not only face gender discrimination in this culture, they are even denied the right to be born. Daughters are treated as a social and economic burden. Female foetuses are selectively being aborted after pre-natal sex determination, thus denying a girl's 'Right to Life'.

Causes of Female Foeticide

Though the root cause of female foeticide is gender bias and patriarchal norms, other socio-cultural, religious and economic causes are deep rooted in Indian society. The primary motivation for bias towards a male child may be financial. Many societies consider boys as a lifelong economic resource, while girls are perceived as a liability. People generally thought that the cost of the test and related abortion is much lower than the cost of providing the dowry and other life-long presentations to a daughter after marriage. In the 1990s before sex-selective abortions were illegal, an advertisement of an abortion clinic in India read “Pay 50 rupees now to save 50,000 rupees later”.

Socio-cultural factors associated with the son can be associated with higher social prestige. In the context of this, women's right to take the decision has been violated due to either being pressurized by family or themselves being under tremendous family and social pressure to give birth to a son, facing threats of violence, rejection or death if they fail to do so. According to Manmohan Sharma, as an activist in Punjab pointed out: “Women are conditioned by social norms and they do not have independent views, they tend to ditto what the husbands say or think and this is considered as proper behaviour for ideal wives.” Women, who had virtually no decision-making power to abort a female foetus, apparently accepted whatever was desired by the conjugal family, including the husbands. They simply accepted and went along with the decision made for them by others.


In view of this, the Indian government, as response to the petition made by non-governmental organizations and women's groups, passed an act prohibiting the practice of pre-natal diagnosis of sex of the foetus. Under the Act, individual practitioners, clinics or centres cannot conduct tests to determine the sex of the foetus or inform the couples about it. Before the passing of the Pre-Natal Diagnostic Techniques (PNDT) Act in 1994, it was evident that clinics conducting sex determination tests had mushroomed in many towns in the states in the north-western belt. The open advertisements have now disappeared but the lucrative practice seems to flourish unabated by simply going underground as evident from the continued decline in the sex ratio of children 0-6 years of age.

Conclusion

Infanticide, Sex selection, and female foeticide have created a crisis of less number of girls compared to boys. In recent decades, there has been a threatening figure that shows decrease in the child sex ratio of (0-4 years) in India due to access to technological advances of ultra sonography and India's relatively liberal laws on abortion and misuse of the pre-natal diagnostic techniques.

What is the impact or effect of less numbers of girls? Where numbers of women are substantially less compared to males, there is a potential for a demographic crisis as men are unable to find female partners. This can result in social unrest, sexual violence and increased trafficking of girls and young women.

References

1. Census of India, 1891; Census of India, Bombay Presidency including Sind, Bombay, 1892; Census of India, 1901, vol. 7, 9, 10, Times of India Press, Bombay, 1901.
2. Ibid.


5. Neonatal death occurred 0 to 28 days is often attributed to inadequate access to basic medical care, during pregnancy and after delivery. This accounts for 40–60% of infant mortality in developing countries.

6. Post neonatal mortality is the death of children aged 29 days to one year. By and large, the causes of female infant death during post natal phases are the preference of male child. So mothers did not feed female infants and did not handle them with care. See for more reference and discussion on this in Meherjyoti Sangle, “Women's Health Care and Women Physicians in the Bombay Presidency (1886-1947)” unpublished Thesis, S.N. D. T. Women's University, 2011.

7. Ibid.

8. Sangle, op. cit.


15. Indeed, when they receive the same care, infant boys are normally more vulnerable to mortality than girls. It has been discussed in the text.


19. Basu, Alaka Malwade, 'Fertility Decline and Increasing Gender Imbalance in India, Including Possible South Indian Turnaround,' Development and Change, vol. 30, No. 2, April 1999; When mobile ultrasound units started touring rural Haryana in the late 1980s, this advertisement was seen.


Abstract

Banking sector is the foundation of modern economic development. Its primary function is to lend funds as loans to various sectors. The persistent and adverse news of Non Performing Assets (NPAs) and bank stocks has rattled our banking sector, as well as the economy. This paper is an attempt to know how NPAs of banks affect the EPS, RoE and Stock prices, in recent times. Though ripples in the market with respect to stock prices cannot be ruled out, the increasing (NPAs) of banks, deteriorates the earning power of banks as reflected by declining EPS, RoE which depresses the stock prices.

Keywords: Economy, Banks, NPAs, Stock price

Introduction

A well developed financial system enables smooth flow of savings and investments and hence, supports economic growth. Banking sector is the foundation of modern economic development. Its primary function is to lend funds as loans to various sectors such as agriculture, industry, personal and housing etc. and to received deposits. Receiving deposit involves no risk, since it is the banker who owes a duty to repay the deposit, whenever, it is demanded. On the other hand lending always involves much risk because there is no certainty of repayment. The assets of the banks which don't perform i.e. don't bring any return are called Non Performing Assets (NPA) or bad loans.

According to a research report by rating agency CARE, as reported in Times of India, December 28, 2017 “India's NPA ratio is the highest in the group of high NPA's nations'. The report classifies major economies into four blocks – very low NPA, low NPAs, medium level NPA and high NPAs. The 9.85 per cent ratio of bad loans in banks has put India in the group of these nations that have very high NPAs”

Indian banks started recognizing stressed loans as NPAs only after former RBI governor Raghuram Rajan introduced asset quality recognition norms forcing banks to classify stressed borrowers as defaulters of the NPAs of Public Sector Banks, a significant part of which has been fraudulently obtained as advances by debtors from banking system and transferred abroad- from where they may never be recovered.

The situation was so worse that huge amounts of loans were written off by the public sector banks in recent times (Table 1). Several state run banks have reported huge losses in past few quarters.

Review of Literature

Many published articles are available in the area of non-performing assets and a large number of researchers have studied the issue of NPAs in banking industry Rao and Patel. (2015) give an overview of types of NPAs and its causes. They have applied ANOVA test to find out whether there
is any significant difference between ratio of Gross NPA to Gross Advances. The findings reveals that the percentage of Gross NPA to Gross Advances is increasing for public banks as compared to private and foreign banks. Singh. (2016) study the status, factors contributing and trend of NPAs in Indian & Scheduled Commercial banks for a period of 14 years. The gross and net percentage of NPAs has shown a downward trend from 2001 to 2008 and upward trend after 2008. The study reveals that among various channels of NPA recovery SARFAESI Act is the most effective channel. Rathod, Malpani and Sharma. (2016) study the impact of NPAs on banks and a comparison of various recovery channels of NPAs. The findings reveal that because of mismanagement in banks there is a positive relation between total advances and NPAs of banks. They have listed various strategies by which banks can curtail NPAs. Madhvi and Srivastava. (2017) examine the relationship between NPA announcements by banks and impulsive movement in stock price. Correlation studies does not establish any significant relationship between NPA announcements by banks and impulsive movement in stock price, but the panel-data analysis shows a negative relationship between the two. The result is utilized to develop swing trading model and get benefit out of it. Bhattacharya, Sinha and Ghosh. (2017) throw light on NPAs and the prices of bank stocks in recent times. The study is based on data of 21 public sector banks NPAs, stock prices, sensex and bankex. The findings of the study reveal that there is no significant correlation between NPAs and stock prices, though transient effect is noted. The stock price move in its own way depending on current sentiment with regard to respective bank stock and in the process sometimes disregards the market sentiment and sometimes obey it.

The persistent adverse news of NPAs and bank stocks has rattled our banking sector as well as the economy. This paper is an attempt to know how NPAs of banks affect the stock prices.

**Objectives of the Study**

To study the effect of increasing NPAs on Earnings Per Share (EPS) Returns on Equity (RoE) and Yearly Closing Price (2010-11 – 2016-17).
Hypothesis

\( H_0 \): Net Non Performing Assets (NNPAs) do not effect EPS, RoE and Yearly Closing Price.

\( H_1 \): NNPAs do effect EPS, RoE and Yearly Closing Price

Collection of Data

Data has been collected from reliable secondary sources like Annual Reports of banks, money control.com, indiabulls.com, RBI websites and various other reputed websites.

Table 2 shows NNPAs as percentage of total advances of 26 banks for 9 years:

Table 2 – The Year wise NPAas as percentage of Total Advances of 26 banks for the year 2009-2017

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Methodology

The data of NNPAs, earning power, return on equity and yearly closing price of shares of 26 banks has been collected on judgmental sampling basis.

Findings

1. **Net Non Performing Assets (NNPAs):** NNPAs is the amount of gross NPAs less (1) interest debited to borrowal and not recovered and not recognized as income and kept in interest suspense (2) amount of provisions held in respect of NPAs and (3) amount of claim received and not appropriated.
Table 2 reveals that of the 26 banks only 9 banks managed to control or lowered NNPAs in the year 2012 and 2013 respectively. From that time onwards the NNPAs of all these banks have escalated. In the year 2016-17, 6 banks have alarmingly high percentage, which is more than 10 per cent. Indian Overseas Bank tops the list with 13.99 percent, followed by IDBI, Bank of Maharashtra, Dena Bank, Central Bank of India and United Bank of India. HDFC Bank has managed to occupy lower rug of ladder of banking in relation to NNPAs.

2. Earnings Per Share: This is portion of a company's profit allocated to each outstanding share of common stock. EPS serve as a indicator of a company's profitability. EPS is calculated as EPS = (Net Income – Dividends of Preferred Stock) / Average Outstanding Shares. Table 3 shows the EPS of 26 banks for a period of 7 years.

Table 3 – The Year wise NPAs as percentage of Total Advances of 26 banks for the year 2009-2017

(Percentage)

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<td>5.11</td>
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<td>84.94</td>
<td>19.04</td>
<td>15.83</td>
<td>15.85</td>
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</table>

From Table 3, it can be concluded that over the period of 7 years the EPS of all the 26 banks have shown a decline. In the year 2017, the highest EPS is of HDFC Bank followed by Indian Bank and Canara Bank. Out of 26 banks, 8 banks have a negative EPS.

3. Return on Equity (RoE): It is the amount of net income returned as a percentage of shareholders equity. RoE measures a corporation's profitability by revealing how much profit a company generates with the money the shareholders have invested. RoE is expressed as a percentage and calculated as \[
\text{Return on Equity} = \frac{\text{Net Income}}{\text{Shareholder's Equity}}.
\]

Table 4 shows RoE of 26 banks for a period of 7 years.

### Table 4 - Year wise Returns on Equity of 26 Banks from 2011-2017 (in Percentage)

<table>
<thead>
<tr>
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<td>3.92</td>
<td>6.32</td>
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<td>3.95</td>
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<td>19.53</td>
<td>16.08</td>
<td>5.76</td>
<td>5.68</td>
<td>-4.78</td>
<td>4.94</td>
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<td>15.83</td>
<td>8.55</td>
<td>4.08</td>
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<td>-14.39</td>
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<td>15.21</td>
<td>15.2</td>
<td>11.39</td>
<td>10.25</td>
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</table>

The earning power of shares has come down in the last seven financial years. In 2017, HDFC is the only bank whose RoE has increased from 12.64 per cent to 14.83 per cent. For all other banks RoE has shown a decline. In the year 2017, 8 banks show a negative RoE.

4. Yearly Closing Price: The closing price is the final price at which a security is traded on a given day. The closing price represents the most up-to-date valuation of a security until trading commences again on the next trading day. Table 5 shows the yearly closing price of 26 banks.

Table 5 – The Yearly Closing Price of Security of 26 banks from 2011 to 2017

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<td>524.65</td>
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<td>771.85</td>
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<td>47.45</td>
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<td>31.7</td>
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<td>436.44</td>
<td>226.58</td>
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<td>72</td>
<td>43.9</td>
<td>62.7</td>
<td>38.85</td>
<td>46.9</td>
<td>48.75</td>
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<td>237.59</td>
<td>232.09</td>
<td>312.8</td>
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</table>

Source: https://www.moneycontrol.com/
As seen in Table 5, there is a variation in the movement of the stock prices.

For simplicity and better understanding, of aforesaid banks, have placed them in two groups on the basis of their Non Performing Assets.

**Table 6 - Trend of NNPAs of Public Sector Banks**

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<th>S. No.</th>
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<th>NNPAs</th>
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<tr>
<td>3</td>
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<td>10.66</td>
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<td>4</td>
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<td>5</td>
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<td>10.02</td>
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<tr>
<td>6</td>
<td>IDBI Bank</td>
<td>13.21</td>
</tr>
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</table>

**Table 6A: Top 6 Banks with NNPAs more than 10 per cent (Year 2016-17)**

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<th>Bank</th>
<th>NNPAs</th>
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<td>1</td>
<td>Allahabad Bank</td>
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<td>2</td>
<td>Corporation Bank</td>
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<tr>
<td>3</td>
<td>Oriental Bank of Commerce</td>
<td>8.96</td>
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<tr>
<td>4</td>
<td>Punjab National Bank</td>
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<tr>
<td>5</td>
<td>Punjab and Sind Bank</td>
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<td>6</td>
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**Table 6B: Top 6 Banks with NNPAs less than 10 per cent (Year 2016-17)**

*Source: Annual Report of above banks 2016-17.*

**Table 7 - Trend of NNPAs, EPS, RoE and Yearly Closing Price of Selected Banks for a period of 4 years (2013-14 to 2016-17)**

<table>
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<th>Sr. No.</th>
<th>Name of the Bank</th>
<th>NNPAs (in Percentage)</th>
<th>EPS (in Rupees)</th>
<th>RoE (in Percentage)</th>
<th>Yearly Closing Price (in Rupees)</th>
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<td>4.2</td>
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<td>3.2</td>
<td>5.7</td>
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<tr>
<td>5</td>
<td>United Bank of India</td>
<td>2.87</td>
<td>7.2</td>
<td>6.2</td>
<td>10.02</td>
</tr>
<tr>
<td>6</td>
<td>IDBI</td>
<td>1.58</td>
<td>2.5</td>
<td>2.9</td>
<td>13.21</td>
</tr>
<tr>
<td>7</td>
<td>Allahabad Bank</td>
<td>3.17</td>
<td>4.2</td>
<td>4.0</td>
<td>8.92</td>
</tr>
<tr>
<td>8</td>
<td>Corporation Bank</td>
<td>1.19</td>
<td>2.3</td>
<td>3.1</td>
<td>8.33</td>
</tr>
</tbody>
</table>
### Findings

As seen in Table 7, the NNPAs of all the 12 banks have shown an increasing trend since 2013-14, as many well known reputed companies have become defaulters in paying their debt obligations. The banks have also started facing the heat as companies shown inability to service the debt, reflected by declining EPS and RoE. 8 out of 12 banks show negative EPS and RoE. The growing NNPAs has also guided the direction of the price of the stocks, as shown by Table 7. Though ripples in the market with respect to stock prices, cannot be ruled out, the deteriorating earning power of these banks as reflected by declining EPS, with rising NNPAs has played a significant role in directing a downward movement of stock prices. Thus increasing NNPAs of banks depress and show a downward trend of EPS, RoE and Yearly Closing price. The study concludes by accepting H1 that NNPAs effect EPS, RoE and Yearly Closing price of bank stocks.

### Conclusion

High NPAs in Indian Banking system, trembles the confidence of investors, depositors and lenders. It has deleterious effect on the deployment of credit and affects the whole economy. Infact high level of NPAs in Indian banks is reflection of the state of health of the industry and trade. It is necessary to trim down NPAs to improve the financial health in the banking system.


10. rbi.org.in


12. Times of India, December 28, 2017 p1
Deterioration of environment is on the rise by the day. The rapid pace of industrialization, power production, enormous increase in vehicle transport with consequent burning of fossil-fuels, etc. have made the air pollution and global warming induced climate change the real threats and challenges affecting the human health and quality of life the world over. Among the measures to face the threat, protecting and increasing green cover stands out as a healing method for the environment. The RCUES is committed to the study of urbanization and environmental studies. As such, we often carry articles relating to environmental issues in the Urban World. An article on Protection and Preservation of Trees is included in this issue.

During our pre-primary schooling days we have read many good stories as lessons—simple, interesting and with some moral. In one of such stories, a king while passing through a village sees an old farmer planting a sapling of a tree. Out of curiosity, the king stops there and asks the farmer as to his age and whether he would be able to enjoy fruit of the tree as it would take a long period for the sapling to mature into a tree and give fruits. The farmer replies that as he has reaped fruits of the trees planted by his grandfather and father, likewise his children and grandchildren would benefit from the sapling in future. The king appreciates the reply and gave some gift to the farmer. Our teacher had then told us that the farmer was wise and long-sighted. Then the message had gone straight into our minds and we were happy with the story. Along this line, there is a proverb which says that the best time to plant a tree was 20 years ago. And that the next best time is now.

Suppose this story is told to us now, our reaction will be somewhat as under. Firstly, like our teacher we would say that the farmer had foresight and wanted to benefit his children and grandchildren by making addition of a tree to the existing stock and continue the tradition followed for long among farmers. We would appreciate the farmer and label him as a horticulturist who, besides farming has taken to fruit trees. We would also call him a nature lover and a green activist who understands the importance of trees in amelioration of environment. We would further say that he had concern of climate change on his mind and wanted to contribute his bit in the form of a tree which would absorb greenhouse gas during its lifetime. It will also be said that the farmer was concerned with conservation of soil in his farm, as the trees play vital role in avoiding rainfall to directly fall on the soil and take away the topsoil. It would be further stated that the farmer realized the importance of flora and fauna and wished to add a tree so as to attract them. It will also come to our mind that the farmer may have been a bird lover, and wanted to have more trees for the birds to find habitat. Somebody would also say that the farmer realized the importance of insects that find abode on or under a tree and keep on playing their role in the environment, as also become food for the birds. It will also be said of the farmer that he had social...
welfare on his mind and wanted to provide more
trees that would provide shelter for wayfarers
during scorching sun. One could also say that he had
a cultural bent of mind and wanted to have a play
area for children and assembly space for the women
to relax and sing under the tree. Somebody will
come with the comment that the farmer realized
importance of tree leaves and flowers on festival
occasions and he wanted to have one more tree to
pluck leaves and flowers from. As the benefits of
trees are immense, our mind will travel to attribute
to the farmer one or the other positive motive in
planting a tree at old age.

Legislation for Protection of Trees

Importance of trees is now receiving due attention
because for long the trees have been the biggest
casualty of increasing urbanization and
industrialization and of our neglect. After
Independence, when massive infrastructure, housing
and industrial development projects were taken up it
was found that the trees are indiscriminately cut and
detrimental effects of deforestation engaged the
attention of the government and planners. In the
1960s the Acts for regulating felling of trees were
passed which provided for control on indiscriminate
felling trees in the States. Accordingly,
Maharashtra Felling of Trees (Regulation) Act,
1964 was passed. This is an Act to make better
 provision for regulating the felling of certain trees in
the State of Maharashtra for the purpose of
preservation thereof. The Act inter alia, provides that
no tree could be cut except with the permission of a
Tree Officer, who gives permission after examining
the situation and need. This permission is given with
the condition of planting equal number of trees of
local variety in lieu of the trees that are cut. He also
has powers to order plantation/re-plantation of trees
on certain lands. Later, when it was realized that
urban areas need a separate Act for the purpose of
protection as well as preservation of trees, the
legislation under the title and style as Urban Areas
Tree Protection and Preservation Act were passed in
all the States. In Maharashtra, we have the
Maharashtra (Urban Areas) Protection and
Preservation of Trees, 1975 -

An Act to make better provision for trees in urban
areas in the State by regulating felling of trees and
providing for planting of adequate number of new
trees in those areas.

Latest amendment of the Act provides that double
the number of trees is to be planted in lieu of the
trees for which permission to cut is given. In both of
these Acts cutting of trees without permission (of
the Tree Officer or of the Tree Authority) is an
offence and equal number/double the number of
trees felled are to be planted. This is a mandatory
condition. This legal framework makes for
protection of trees, whether in rural or urban areas,
i.e. everywhere.

Tree Census and desired Tree: Man Ratio

The Act inter alia enjoins the municipalities to
conduct tree census after every 5 years. IT tools
have been developed to do the tree census by
recording scientific features and collating the
figures. Tree Census figures generate public
opinion on the success or failure of the municipality
to make desired progress. On such greenery experts
often raise the issue of having tree population in the
city related to the human population. They quote
the example of New York which has Tree: Man
Ratio of 6:1, i.e. there are six trees for one person in
New York. In Mumbai it is the other way round with
a 1: 2.5 Tree: Man Ratio in Mumbai. In India only
the cities of Chandigarh, New Delhi, Gandhi

Nature keeps on balancing the environment. Of
tall the carbon put into the atmosphere, oceans
have diffused 30% of it through direct chemical
action. Plants on land have taken up
approximately 25% of the carbon that humans
have put into the atmosphere. (Earthobserv-
atory.nasa.gov/features/carbon cycle.

36
Nagar, Bangalore have good number of trees, because these are the planned cities and greenery development was an inbuilt component of the development plan.

**Constitution of India on Trees**

The 73rd and 74th Constitutional Amendment Acts added the 11th and 12th Schedule to the Constitution in respect of the responsibilities entrusted to the Panchayats and Municipalities respectively. Panchayats are inter alia, entrusted with the social forestry and farm forestry, whereas the responsibilities of municipalities the activity of urban forestry, protection of the environment and promotion of ecological aspects.

**Vanmahotsav**

In India Vanmahotsavs are celebrated in all the States, under which tree planting drives are taken for a week- 1st to 7th July every year on community lands, parks, school compounds, roadsides, etc. people's participation.

**Bio-diversity- the heart of the matter in greenery development**

*Biodiversity is the living fabric of our planet. It underpins human wellbeing in the present and in the future, and its rapid decline threatens nature and people alike. According to reports released in 2018 by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), the main global drivers of biodiversity loss are climate change, invasive species, over-exploitation of natural resources, pollution and urbanization.*

Nature is very bountiful and there are a large number of trees suitable for plantation under various agro-climatic conditions. Thus, always there are ample options of kinds and varieties of trees to plant. The Social Forestry Department of Government of Maharashtra has prepared a list of 183 trees and shrubs for plantation under the following categories: *(This list is included in a publication of the Institute).*

1) Drought resistant trees suitable for arid and semi-arid regions.
2) Salt resistant trees.
3) Trees for swamps and marshy areas.
4) Ornamental flowering trees suited to moist conditions.
5) Ornamental flowering trees suited to dry conditions.
6) Trees suitable for avenue plantation.
7) Dwarf ornamental trees and shrubs suitable for small compounds.
8) Fragrant trees and shrubs.
9) Trees suitable for large compounds.
10) Beautiful crown forming trees.
11) Fruit trees suitable for human consumption.
12) Species suitable for green belt and pollution barrier.
13) Shade bearing trees.

**Maharashtra's ambitious Plantation Drive**

The Vanmahotsav of the year 2016 was very different from the past when the Government of Maharashtra launched an ambitious plantation drive of planting 50 crore saplings in three years. On 1st July, 2016 itself, in all 2.82 crore saplings (against the target of 4 crore saplings for the year 2016) were planted in and around schools, colleges, community lands, hospitals, municipal parks,
gardens, roadsides and government buildings across the State. Later, when a survey was taken it was found that survival rate of this plantation drive was 85%. The Government intensified its efforts to achieve the target. Accordingly the target for the second year (2017) was fixed at 13 crores and that for 2018 as 33 crores in order to achieve the target of 50 crores during the three years. This massive effort is being accomplished through the public participation and with the involvement of 33 government departments, students of schools and colleges, NSS, NCC, CSR, NGOs, Railways, National Highways, Defence, NABARD, etc. In a first of its kind, a 24 hour toll free helpline number 1926 called Hello Forest has been set up to provide information regarding plantation, protection and for mass awareness. Maharashtra Forests Department has initiated the 'Maharashtra Harit Sena'/Green Army' which is a body of dedicated volunteers to participate in the plantation, protection and activities in forest, wildlife and related sectors around the years.

Preserving Trees is Nature Worship

The Urban Development Department of Government of Maharashtra has introduced a novel scheme of promoting tree plantation by citizens on various occasions of life under the caption वृांची जोपासना हीच निसर्गाची उपासना” from 2018 prescribing ward wise targets of planting and preserving trees for all urban local bodies.

Policies and Measures at National Level

A number of initiatives have been taken at the national level for increasing the green cover in the country for various objectives, some of which are briefly mentioned here.

National Mission for a Green India

Launched in 2008, the National Mission for a Green India recognizes that climate change phenomenon will seriously affect and alter the distribution, type and quality of natural biological resources of the country. It has the following objectives:

a) Increased forest/tree cover on 5 million hectares of forest/non-forest lands and improved quality of forest cover on another 5 million hectares.

b) Improved ecosystem services including biodiversity, hydrological services and carbon sequestration as a result of treat of 10 million hectares.

c) Increased forest-based livelihood income of about 3 million households living in and around the forests.

d) Enhanced annual CO₂ sequestration by 50 to 60 million tones in the year 2020.

A thrust component under AMRUT

ambitious national programme of Atal Mission for Rejuvenation and Urban Transformation is under implementation in 500 cities in the country from 2015. The programme has a thrust component of enhancing amenity value of cities by creating and upgrading green spaces, parks and recreation centers, especially for children. This will give an additional thrust to greenery movements.

Green Highways

The Ministry of Road Transport & Highways has framed Green Highways (Plantation, Transplantation, Beautification & Maintenance) Policy-2015. The vision is to develop eco-friendly National Highways with participation of the community, farmers, NGOs, private sector, institutions, government agencies and the Forest Department. India has a total 46.99 lakh kms of road length and out of which over 96214 kms are National Highways, accounting 2% of total road
length. The Highways carry about 40% of the traffic load. The Ministry has decided to develop all of existing National Highways and 40,000 kms of additional roads in the next few years as Green Highways. The objective is to reduce the impacts of air pollution and dust as trees and shrubs along the Highways act as natural sink for air pollutants and arrest soil erosion at the embankment slopes. Plants along highway median strips and along the edges reduce the glare of oncoming vehicles which sometimes become cause of accidents.

National Forest Policy 2018

As there is increasing awareness of the value of trees and forests at national and international level, the Government of India is revising the existing national policy of 1988 with the new policy which, inter alia, has the objective of to integrate the vision of sustainable forest management by incorporating elements of ecosystem security, climate change mitigation and adaptation, forest hydrology, participatory forest management, urban forestry. This will take the scope of the national forest policy to cover the areas beyond forests including the urban areas.

Greenery on the Campuses of Universities/Higher Education Institutions

The Ministry of Higher and Technical Education has adopted a wise policy to make substantial greenery on the campuses of universities and institutions of higher learning a mandatory condition for sanction. As a result of this policy, campuses of universities, IITs and other national level learning institutions with their verdant campuses and greenery are mini national parks, providing a serene ambience for learning, beauty to the campus and lungs of fresh air to the cities where they are situated.

Innovation in Campus Greenery

While it is good to have large number of trees and greenery in the campus, over the years, it is observed that there is an obsession with ornamental plants and geometrical shapes. The city of Bangalore saw an innovative approach in this respect. The SAP Labs has a 50 acre campus in Bangalore. When it wanted to spruce up its campus, at the advice of two bird loving officers Mr. Ramkrishna Yarlapati and Mr. Roshan Kadaramandalagi, instead of a landscape professional, the company hired an ornithologist. According to the plan given by the ornithologist, besides planting various species of trees, the primary focus was on improving the ecology of the campus, more flowering plants were planted, increasing the canopy of twigs scattered all over the campus and more shrubs were planted between buildings. The gardeners were instructed to leave the grass untouched in several patches all around the campus. The result of this approach was wonderful. The number of varieties of birds in the campus increased quickly along with several insects, worms and smaller reptiles. Presence of more than 50 species of birds was recorded. The campus presented a picture of natural beauty and a nature's hub with flora and fauna. Impressed with this new development, other companies/ institutions in and around Bangalore followed the same ecological approach of greening their campuses. At Electronics City, the WIPRO developed its campus with more medicinal plants, rocks as seating places, granite pathways, a wetland park and a butterfly park. The catalytic effect of this new approach was that ecologists and special interest groups are driving the bio-diversity movement in Bangalore. It may be recorded the Constitution of India also mentions urban forestry along with promotion of ecological aspects.

There are a number of success stories and inspiring achievements as regards tree plantations and greenery development in India as a part of efforts to take the country towards having greener and better environment.
Mumbai’s Metro Lines to make difference in improving urban mobility

Construction of some Metro Lines in Mumbai is going on with a frenetic pace and citizens are putting up with inconvenience with the hope of a better tomorrow. Recently some extensions to the sanctioned Metro Lines have been announced. According to the latest position given out by the MMRDA and widely reported in the Press on 8 September 2018, by December, 2019 two of these lines are to be completed, and by 2022 on completion of all the Lines, Mumbai will finally have 12 Metro Lines covering 276 kms of length with 250 stations. The only one Metro Line (Versova-Andheri-Ghatkopar) in operation now is having a ridership of 4 lakh passengers daily, greatly easing east west connectivity. When completed the 12 Metro Lines are estimated to have daily ridership of 50 lakh passengers. It will bring about great ease in commuting across Mumbai, besides saving tons of carbon emissions.

Swachh Bharat Mission could avert 3 lakh deaths

We have become used to read the reports of the World Health Organization (WHO) and other international forums, in between, about a number deaths attributed to pollution. Reverse and refreshing news has come with WHO through its New Delhi office saying that “If India remains committed to achieving 100% coverage in terms of safe sanitation services by October, 2019, as many as 3,00,000 deaths caused due to diarrheal disease and protein-energy-malnutrition (PEM) since the country launched the Swachh Bharat Mission in 2014 can be averted.” It further said that “accelerated coverage of safe sanitation services will have an effect on the burden of diarrheal disease by reducing mortality and accumulative Disability Adjusted Life Years.

(Widely reported in the media and press through ANI).

100th City selected under Smart City Mission

After completing the rounds of selection of cities under the Smart City Mission, Shillong, the capital of Meghalaya has been selected as 100th city under the Mission. As stated in the press release of the Ministry of Housing and Poverty Alleviation on 25 June, “with the selection of Shillong, the total proposed investment in the finally selected 100 cities under the Smart Cities Mission would be Rs. 2,05,018 crores.” India will then have 100 cities with state-of-the-art technology at work providing ease and comfort to the city dwellers.
World Bio-fuel Day celebrated on 10th August

The World Bio-fuel Day was celebrated in India to reaffirm the Government's commitment to increase farmers' income and improve the environment. Inaugurating the celebration on 10th August at Vigyan Bhavan, New Delhi, Prime Minister Mr. Narendra Modi said that “energy security based on clean and reliable sources is essential for India's future.” In line with this policy, India's first bio-fuel flight took off on 27 August, 2018 from Dehradun to Delhi. The Press Release stated that the Indian Institute of Petroleum Technology had prepared 400 kg of bio jet fuel under a pilot programme which was used in the flight.


World's first hydrogen train rolled out in Germany

Search for cleaner fuel is on the world over. On 17 September, 2018 Germany rolled out world's first hydrogen powered trains into commercial service on a rail line in northern Germany near Hamburg. The trains will be powered by hydrogen fuel cells that generate electricity through a chemical reaction. The mode is a cheaper alternative to regular electric trains. Hydrogen powered trains produce no emissions of carbon dioxide, thus avoiding the chief greenhouse gas causing global warming.

(NYT News Service.)

Binding force of law increasingly applied for implementation of solid waste management rules

A bench of the Supreme Court, led by Justice Madan Lokur, on 31 August, 2018 announced the ban on construction activities in the States of M.P., Maharashtra, Uttarakhand and the Union Territory of Chandigarh citing the failure of these States and the UT to implement a solid waste management policy. This shows the great concern the Apex Court has for the sanitation in the cities. It turned out that Maharashtra put in place Solid Waste Management Policy in 2017, but the same was not conveyed to the Supreme Court formally. Maharashtra has approached for exempting it from the ban. At the same time, In furtherance of the SWM rules, the Government of Maharashtra approved new SWM projects of 32 urban local bodies worth Rs.178 crore in September, 2018. A few months it had given approval to detailed project reports of 213 urban local bodies. These projects aimed at segregation and generation of compost that is to be branded and sold and also generation of bio-gas.

Public transport's share in road traffic dipping low

Environmentalists and urban planners have all along been recommending that one of the effective solutions to the woes of urban traffic congestion and environment deterioration lie in increasing the share of public transport in the cities. However, what is actually happening is the reverse. A study by global consultancy firm AT Kearley showed that share of public transport in India in road traffic has gradually come down to 25-35% in 2018 from the level of 60-80% in 1994, and 30-45% in 2011. The study cited phenomenal increase in two-wheelers and private cars in the cities and stagnancy in growth of public transport buses.

(Times of India, Mumbai, 3 September, 2018).

World Bicycle Day celebrated in India

Realizing the importance of non-motorized transport in the cities and the uniqueness and versatility of bicycle as simple, affordable, reliable and clean mode of transportation that enhances urban mobility and access, the United Nations General Assembly declared 3 June as the World Bicycle Day. This is a popular mode of transport in hundreds of small and medium cities in India including many big cities. Reports indicate that over 10,000 came out on the streets of New Delhi to celebrate the Day.

(Urban Update, July, 2018).

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