BACKGROUND OF THE STUDY

The dawn of the 20th century witnessed sweeping socio-economic transformations due to scientific advancements, sophisticated medical breakthroughs and increased human control over nature through technological developments. Social scientists conceive of such transformations as products and processes associated with development. Developmental activities have differential impact on different categories of a region, men and women, young and old, and the rich and poor. These outcomes have led medical scientists to look to sociology for help in understanding the relationship between society and health.

The present study falls within the broad scope of Sociology of Medicine. The growth of Sociology of Medicine is a reflection of the social influences on health and illness. Among these discrimination, inequity, psychosocial stresses, occupation, education, income, gender, race, sexual orientation, social status, class, life style and similar stratifications interact with women's well-being. Though women have the same capacity as men for reasoning, the patriarchy has denied women the opportunity to practice this reasoning. Women have been isolated to the private sphere of the household and, left without a voice in the community. Even after women enter the public sphere, they are still expected to manage the private sphere and take care of household duties and child rearing. Hence sexual division of labor within the family explains gender differences and inequalities as women are marginalized in patriarchal societies. Married women do not benefit from marriage as men; they have higher levels of stress than unmarried women and married men.
In this era of globalization, traditional women's roles change significantly over time and place, as women engage in different activities. With rise in the educational status and labour participation of women, there were increasing levels of decision making, sharing in the household chores, social support system and role enhancement, socio-economic and gender equity among men and women. But emerging achievements and higher education still continue to have limited opportunities for women compared to their counterparts (King and Mason 2001: 22).

Women are less likely than men to be literate; they face obstacles at workplace, and have unequal property rights. They have a 'double day' of taxing employment and responsibility of housework and childcare. They lack opportunities for play and cultivation of their imaginative and cognitive faculties. Women's central role in nuptiality, fertility, fecundity, and other reproductive health issues affect their quality of life. This centrality of social and cultural norms around women and their societal role shapes gender and influences their reproductive health and well-being. Hence reproductive health does not refer only to the physiological, biological or biomedical aspects but it goes beyond medical science.

From an overview of research literatures in India it is evident that there is a dearth of representative data due to the sensitive nature of issues, socio-cultural barriers, and asymptomatic morbidity related to women's reproductive health. The present study of reproductive health hopes to provide a benchmark on reproductive health among rural women, which would act as a basis for women's struggle for fundamental reproductive rights focusing on the lives of rural women in the midst of developmental activities.

This research study in Sociology of Health and Illness explores the significance of the broader- social, economic, psychological, emotional and cultural
well-being- contexts of women's lives in the realm of developmental activity in Goa. Studying a group of women in various settings and comparing the pattern across differing women populations helps in understanding the social factors contingent on the social and natural environmental conditions. Mining is one such important developmental activity predominant in Goa and women live in the midst of these mining activities.

Rural areas, which were key environmental assets of healthy living, are under intense pressure due to scarcity of water, forest and food resources in developmental areas (Visvanathan 1997: 605). While women and girls bear the direct brunt and severe costs of these inequalities, especially among the poor, the disparities contribute to significant risk and vulnerability in the face of personal or family crises. Married women in poor rural households are victims of environmental degradation in gender specific ways, as they are dependent on nature (forest produce, fuel, fodder, irrigation/drinking/domestic use of water, cultivation, hunting, soil fertility) for drawing sustenance for their families.

This inter-disciplinary research is a comparative sociological study of women living in two rural communities— one, which is near the developmental activity of mining and the other, is a village which is away from mining activity. This empirical study focuses on the qualitative component that may yield an idea of sensitive dimensions of reproductive health in addition to quantitative aspects. The study looks at the social and health aspects of married women with reference to their reproductive health (RH) and quality of life (QOL) in the mining and non-mining regions of Goa. In this context a brief overview of women’s lives, reproductive health, significance of reproductive health and quality of life is attempted to throw light on trends and specific issues of concern in depicting the lives of womankind.
Sociological Aspects Related to Women

The primary driving forces of social change regarding population, migration, urbanization, development and life style (fertility, diet, habits, smoking, alcohol, stress, chemicals, and job) have gender differential impacts. This is a matter of concern especially in the rural areas as changing social patterns of ill health pressurize the health care system in resource poor environments. While improved education, better wages and access to health care facilities are attributable to development; certain developmental activities have mixed outcomes. These developmental activities affect the environment and economy significantly creating stressed conditions.

Women's lives and development has gained social scientific recognition only recently in India. Studies surveyed by Indian Council for Social Science Research (ICSSR) have touched on various aspects like Sociology of Medicine or Sociology of Health and Illness. This sub discipline studies issues such as traditional/ ethno medicine, modern system/ biomedicine, medical institutional structures, inter-relationships, knowledge and technology and other issues (Rao 1974: 401- 430). Karlekar in her literature regarding women's development has highlighted that 'women's work has no end as she fulfills multiple roles'. Issues of migration, working, paid work, role conflict, self-perceptions, education, mobility, constraints, and structural factors influence women. Karlekar maintains that women need to go beyond domestic unit for change (ICSSR 2000: 116-220). These studies among women are important in themselves, but they do not have in-depth focus on women's health, reproductive behaviours or QOL in changing environments, which are important for understanding women's lives.

Women's susceptibility to ill-health occurs in all phases of the life cycle from childhood, teenage, adolescence, marriage, pregnancy, delivery, and child bearing to
old age due to gender differences (Renee 1986:24). To be more explicit the biological sexual differences have placed women at differential risks from environmental factors apart from the cultural and socially constructed gender roles. Their reproductive role exposes them and their unborn child to additional health risks. Thus health consequences for women are more crucial than men at various levels of environmental exposures that promote health hazards and risks.

Illness interferes with woman’s social role performance and relationships (Talcott 1975). Ill-health is relevant to sociological theory as health problems are a threat to society as postulated by Functionalism theory. Women’s inner psychic life is different from men’s basic values, interests, achievement motives, sexual fantasies, sense of identity, consciousness and selfhood. They bring a different vision and different voice to social reality. Women’s relationships and life experiences are distinctive as they relate differently from men. Thus their life experiences from infancy to old age are different from that of male’s consciousness and life experiences (Ritzer 1992: 494–579).

The feminist studies and studies of reproductive health are necessary to view the social world from women’s perspective as reproductive health problems have risen to become a public health problem. There is a need to focus on the health aspects of women with special reference to reproductive health in stressed communities and examine a cycle of revolving factors. Hence it is necessary to gain insights into women’s perceptions regarding their reproductive health and well-being in the context of their present situation and circumstances.

Sociological Views of Reproductive Well-being among Women

The increasing burden placed on healthcare resources in developing countries by rapidly growing populations and poor reproductive health (henceforth RH) was
officially recognized at the Cairo International Conference of Population and Development in 1994. Since then the concept of RH has taken a central place in the women's developmental studies (Hutter, Ramesh and Willekens 2000: 34-56). Reproductive health can be defined as the ‘ability of women to pass through the reproductive years and beyond the reproductive choice, dignity and successful childbearing and to be free of gynecological disease and risks’ (Zurayck et al 1995: 14-21). This implies that women have the ability “to reproduce, go through pregnancy and child birth safely, and that reproduction is carried out to successful outcome, i.e. infants survive and grow up healthy’ (Dixon- Muller 2000: 69-94; Obermeyer 1995: 10-19). This biomedical framework of conceptualizing RH symbolizes a shift from women’s general health to holistic health.

Issues related to fertility, family planning, causes and consequences of unwanted pregnancies (unmet need for contraceptives, induced abortion), prevention of RTIs, STD, HIV/ AIDS, sexual health, female circumcisions, child survival and safe motherhood relate to reproductive well-being (WHO 1992: 57-67). The importance of these issues is determined by underlying medical sociological factors such as quality, use and accessibility to health services, status of women, freedom to make choice, quantity and quality of food intake, weight gain, physical activities, anemia, perceptions about health, food and proper behaviours (UNFPA 1995: 33; Hutter 1994: 48-78; Jeffery, Jeffery and Lyson 1989: 89-100).

In the past, studies on reproductive health have focused on obstetrical, contraceptive or gynecological morbidity from a purely biological viewpoint. This can be seen from a study among rural women in Jaipur who experienced reproductive health problems related to menstrual disorders, vaginal discharge, discomfort, foul odour, pelvic inflammatory diseases, prolapse of the uterus, cystocele, rectocele,
anemia, nutritional deficiency, weakness, cervical cancer, breast abscess and mastitis. They perceive their physiological changes as a cause of environment factors, poor spiritual and tense social relationships within the locality (Unnithan-Kumar 1999: 621-629).

Reproductive health goes much beyond the understanding of family planning and welfare to encompass social health and wellbeing pertaining to reproductive labour at various stages of the life cycle. The International Conference on Population and Development (ICPD) defined reproductive health as “a state of complete physical, mental and social well being and not merely the absence of disease and infirmity, in all matters relating to the reproductive system and to its functions and processes” (WHO 1998: 43-56). This description entails the WHO (1948) definition of health and is used in this study while conceptualizing reproductive health and well-being (RHW) among women. In this light reproductive health and well-being among women could be examined holistically taking into account several factors that nurture or hinder their functional, social, economic, cultural, emotional, and biophysical well-being and overall quality of life (QOL).

**Sociological Implications of Development for Women**

Mining is an important developmental activity and has manifold impact on population dynamics, development and environment. It has both positive and negative impacts. The positive aspect of mining contributes to transforming the lives of existing families in all spheres of social, economic, cultural, political and physical dimensions. It enhances employment, income, services, infrastructure, amenities, health care resources, communication, transport, and schools. Though mining provides developmental avenues it cannot suffice the underlying gender impact at the cost of social health and well-being. Gender differential impacts through air, water,
food, crop, fish, livestock, soil, land and forest areas affects social well-being even in favourable mining circumstances as it forcibly exposes women to unknown stressors in adjusting to a visibly degraded environment. The net effect of gender specific consequences is amplified leading to reduction in the social and community development benefits.

Women's vulnerability to environmental health problems is exacerbated by inadequate access to healthcare facilities, malnutrition, isolation and lack of awareness. Being exposed to stressors, women have to make radical changes throughout their life cycle. In this context, the present study acts as an additional lever in understanding the inter-relationships between RH and QOL among women in the mining community as compared to those women in the non-mining context. It looks at the interaction between RH and QOL among women in the mining communities, i.e., villages in and around the mines where mining activities exist. Women in the non-mining communities are those who reside in the villages, which are not situated in and around the mines and have no active mining activities.

This empirical study provides a window into social and health perspectives, including beliefs and practices associated with particular traditions among women. At the same time it also describes the realistic views, concerns and sociological issues related to reproductive health and QOL from a women's standpoint in society.

**NEED FOR THE STUDY**

This is neither an epidemiological nor an environmental impact study. This inter-disciplinary research study is important in itself as it allows us to understand the meaning of reproductive health, well-being and its variations from the point of view among women. The correspondence between the actual objective conditions of life, which can be observed, and the manner in which it is perceived or reported and the
articulation of that subjective experience can vary considerably among women (Madhiwalla 2003: 23).

Qualitative research is important in elucidating women’s roles in social and biological reproduction and in gaining access to women’s perception of their own reproductive health. In-depth information is required to shed light on the socio-cultural determinants such as values, beliefs, practices, decisions, choices, opportunities, interactions, support position, role, status, location, class, job, and education relating to reproductive health. National Family Health Survey (NFHS) supplied Indian data regarding unregulated population growth as a principal drag on rapid development. The main critique of national surveys like the Demographic Health Surveys (DHS), the NFHS (1992-93: 312) and the Reproductive Child Health surveys (RCH) are their primary emphasis on statistical figures related to demographic, social, health and reproductive trends without conceptualizing them in their respective socio-cultural behaviours that play a role in women’s reproductive health status and well-being.

Women’s experiences of induced abortions, unwanted pregnancies, infertility, water and sanitation, personal and menstrual hygiene, unsafe and unhygienic obstetric and abortion procedures and sexual behaviour of husband, sexual activity of unmarried young women, informed reproductive choice and other sensitive issues have not been looked into in the NFHS. This point to the data gaps in the area of reproductive health and well-being in India. There is a lack of explanatory variables or parameters (fertility, nutrition, life style, marital, child bearing/rearing etc) explaining qualitative aspects governing reproductive well-being among women.

Despite progress made over the past quarter of the century, one in every 65 women in developing countries die from reproductive health-related causes during
lifetime, a rate 33 times higher than the risk to women in developed countries who face a one-in-2125 chance of dying (Population Action Institute 2003: 45 - 57). There is a felt need to identify the constraints women face in attaining good reproductive health which has a bearing on their autonomy, decision-making, authority, movement, economic resources, information, education, socio-cultural, gender relations and behaviours.

Women lack basic information and skills in negotiating basic health care across the life cycle. They refrain from communicating health concerns with spouses, parents or others. At times, health care personnel overlook age and sex appropriate reproductive health information due to socio-cultural taboos, sensitivity or attitude. Such barriers prevent women from enjoying good health and these consequences extend far beyond themselves. They suffer from the loss or diminished capacity as primary caregivers, wage earners or productive members of family and community.

There exist ground level quantitative databases on reproductive health problems among women. But there are very few studies, which have examined the determinants of social changes and social well-being from the combined perspectives of reproductive health and QOL of the women and their inter-relationships in the mining communities. This study addressed the social and health aspects of RH and QOL through quantitative data analysis and also from a holistic perception of women using qualitative data. The crux of this study is that reproductive health and quality of life vary among women in different contexts, i.e., a stressed economic activity (mining) compared to a less stressed economic activity (non-mining). In the mining region women’s reproductive health may have an impact on their well-being, which may vary from other regions due to interactions, differences and inequalities.
Women's location and experience of social situations or positions differ, as they tend to occupy, use and manage different aspects of the environment in multiple ways.

There is a growing body of scientific and popular research studies demonstrating the high rates of RH illness, violence and abuse, knowledge, attitudes and practice regarding reproductive and sexual health among women in India. However, large gaps still remain in our understanding of women’s reproductive health and well-being. There is little qualitative work on inter-relationships between women’s RH and QOL. This recognition of a research gap prompted the researcher to take up the present explorative and comparative study.

The review of the existing studies informed that, there were few attempts made to study the sociological implications of reproductive health among vulnerable groups of women. Often due to the current upsurge of interest in the subject of RH among women, reproductive health problems alone are understood to encompass the entire range of women’s illness. Such a view ignores the intricate links between social and health issues among women. Women’s lives should not be pushed into a circumscribed space that limits our understanding of social issues related to health in relation to their lives.

The recent surge in concern for women’s reproductive health in India has brought into focus the inter-relationships between health, educational, and economic well-being. As QOL is a multidimensional construct and arises from complex interaction, between society and environment, an inter-disciplinary approach is necessary for understanding it. Women living in the mining and non-mining region are bought into the limelight solely for conceptualising and analyzing issues related to reproductive health and well-being. The findings of the study would help behavioral researchers, feminist scholars, sociologists, economists, and health care professionals
to gain an insight into women’s reproductive health perspectives that facilitate or hinder life’s happiness, satisfaction, functioning, potentials, importance, capacities and capabilities related to quality of life among women.

STATEMENT OF THE PROBLEM

Title of the Study
Reproductive health and quality of life: a sociological study of women in the mining and non-mining regions.

Research Questions
This study aims to explore the issues concerned with:

- How do married women perceive their reproductive health and well-being in the mining and non-mining regions of Goa?
- How do married women view their sense of well-being or QOL in the mining and non-mining regions of Goa?
- Why do the perspectives of married women vary with regard to reproductive health and quality of life in the mining and non-mining regions of Goa?

Specific Objectives of the Study
The objectives of this study are:

1. to assess the reproductive health status among married women in the mining and non-mining regions of Goa;
2. to assess the quality of life among married women in the mining and non-mining regions of Goa;
3. to compare the reproductive health and quality of life perspectives between married women living in the mining and non-mining regions of Goa; and
4. to investigate the association between bio-demographic and reproductive health characteristics on one hand and reproductive health as well as
quality of life among married women in the mining and non-mining regions of Goa on the other.

Assumptions

The following assumptions are adopted for the study

- QOL is empirically measurable (Holmes and Dickerson 1987: 148).
- QOL is dynamic, i.e. it's not constant (Myers and Suen 1989: 281).
- Every married woman is biopsychosocial in nature and is with continual interaction with her social environment.
- Women's reproductive health and well-being are influenced by social factors.

Conceptual and Operational Definition of the Terms

Reproductive health and well-being (RH / RHW). In this study reproductive health and well-being (RH or RHW) is a “state of complete physical, mental and social well being and not merely the absence of disease or infirmity, in all matters relating to the reproductive functions and processes”. This definition is adopted from the ICPD definition, which considers physical, psychological, emotional, socio-economic and developmental functioning as part of reproductive health among women.

In this study it specifically refers to social dimensions or sociological aspects related to married women’s health status, access to health care, reproductive illness, menstruation, fertility, pregnancy, childbirth, post natal, support, nutrition, health care, safety, activities, decision making, relationships, social life/ interaction, education, work, sanitation, housing, environment, socio-economic/ demographic variables, couple communication, family support and ultimately on the reproductive health and well-being among married women in the community. The well-being aspects of reproductive health also reflects the quality of life among women. It is
measured by the Reproductive health index (RHI) expressed as RHI scores (measured on a six point rating scale) and an interview schedule based on qualitative description of reproductive health and well-being (RHW).

Quality of life (QOL). In this study, QOL is defined as "woman’s sense of well-being regarding subjective perceptions of satisfaction and importance with health and functioning, social and economic, psychological or spiritual, and family domains of life". This definition is adopted from Ferrans and Powers (1992:28) definition of QOL as a "person's sense of well-being that stems from satisfaction or dissatisfaction with the areas of life that are important to him". It is measured by the Ferrans and Powers Quality of life index-Generic version (QLI) expressed as QLI/ QOL scores. It consists of four domains: "health and functioning", "social and economic", "psychological or spiritual", and "family" measured on a six point rating scale.

Women in the mining region. This phrase relates to married women living in the vicinity of active iron ore mines and mining related activity, which have existed for more than 45-50 years in the rural community of Goa. This is not used to connote the specific environmental impacts of mining on women's lives.

Women in the non-mining region. This phrase purely refers to married women residing in a rural community of Goa, where there is an absence of mines or mining activity. The term non-mining is not used to compare the effects of economic activity like agriculture with the environmental realities of mining.

Women. This specifically refers to the selected married women in the age group 15–45 years who have conceived at least once during their reproductive life and residing in the selected rural mining and non-mining regions of Goa.
Variables in the Study

*Dependent variable.* In this study, the dependent variables or the measure variable is Quality of life as measured by a standardised tool, Ferrans and Powers quality of life index - Generic version (QLI).

*Independent variable.* The main variable is the reproductive health, which is measured by two tools; the structured questionnaire rating scale reproductive health index (RHI) and an in-depth interview reproductive health and well-being (RHW) constructed for the study.

*Extraneous variables.* The extraneous variables included are the socio-demographic characteristics among women like age, education, occupation, income, marital, home and surrounding environment. This data is collected in the RHW proforma.

Research Hypotheses

H01: There is no significant difference between the total QOL mean scores among women in the mining and non-mining regions of Goa.

H02: There is no significant association between the QOL scores and the selected demographic characteristics among the women in the mining as well as in the non-mining regions of Goa.

H03: There is no significant association between the QOL scores and the selected reproductive characteristics among the women in the mining as well as in the non-mining regions of Goa.

H04: There is no significant difference between the total RHI mean scores among women in the mining and non-mining regions of Goa.
H05: There is no significant association between the RHI scores and the selected demographic characteristics among the women in the mining as well as in the non-mining regions of Goa.

H06: There is no significant association between the RHI scores and the selected reproductive characteristics among the women in the mining as well as in the non-mining regions of Goa.

H07: There is no significant relationship between the total QOL and the RHI mean scores among the women in the mining and the non-mining regions.

H08: There is no significant association between the total QOL and the RHI mean scores among the total women in the study.

H09: There is no significant correlation between the total QOL and the RHI mean scores among the women in the mining and in the non-mining regions.

The hypotheses were tested at 0.05 level of significance.

**Delimitation of the Study**

- This is an empirical study of specific women's issues among married women in the reproductive age group living in the selected mining and non-mining regions of Goa.

- The comparison between women in the mining and non-mining region is purely used to denote variation or similarities among married women with differing experiences in various locations.

- This is not a biomedical, clinical, or a diagnostic study.

- This is neither an experimental nor an epidemiological study of health transition in the mining and in the non-mining regions.
This is not a study regarding environmental impacts, migrant women or occupational health in the regions.

Organization of the Thesis

Chapter one introduces the study. It describes sociological issues such as women’s lives, reproductive health and well-being, development and women, and need for the present study. This also contains statement of the problem, research questions, objectives, assumptions, variables, hypotheses, operational and conceptual definitions of the terms, and delimitation of the study.

Chapter two describes the methodological orientation and the setting of the study. Development of the study instruments includes informal interviews for identifying core issues, selection, construction, description, preparation of the content of the tool, and content validity of the main tools used in the study. The population, field visits, and components of sampling are detailed with the pilot study and other techniques of data collection.

Chapter three presents a brief review of literature for the study. It is an essay prepared on the basis of the secondary and published literature, which acts as a prelude to the presentation and discussion of the research findings. Literature regarding women’s lives in the mining regions, significance of RH and QOL are detailed in the text. In the Indian settings there is a dearth of research literature regarding inter-relationships between QOL and RH among women. This study aims to fulfill this research gap by exploring reproductive health and QOL among women in the context of specific developmental activity.

Chapter four describes the bio-demographic and social ecological characteristics among women in the mining and non-mining regions of Goa. Specifically it contains the profile of the women in four broad areas: (i) personal
identity related to age, residence and family structure; (ii) socio-economic status related to education, work and income; (iii) health status covering illness, health care and nutritional status; and (iv) the environment encompassing household surrounding, exposure, and living conditions among women in the mining and non-mining regions of Goa.

Chapter five portrays the reproductive health and well-being characteristics among women in the mining and non-mining regions of Goa. Reproductive health issues among women are depicted in four broad areas: (i) physiological health about menstruation, fertility and motherhood; (ii) psychosocial health relates to safety, support, and socialization; (iii) reproductive well-being is concerning empowerment, autonomy, and decision-making; and (iv) couple support with regard to couple interaction, communication and relationships among women in the mining and non-mining regions of Goa are described.

Chapter six illustrates the inter-relationships between RH and QOL as well as selected characteristics among women in the mining and non-mining regions of Goa. It contains quantitative analysis of: (i) quality of life index (QLI); (ii) reproductive health index (RHI); (iii) association of QLI and RHI with selected demographic and reproductive characteristics; and (iv) relationship between RHI and QLI scores among women.

Chapter seven, the final chapter of the study, contains conclusions based on the main findings regarding women’s quality of life and reproductive health issues and perceptions in the mining and non-mining regions. The chapter also includes limitations and scope for further research arising out of the study. This chapter is succeeded by appendices (data collection instruments), references and selected bibliography.