Chapter 9

FINDINGS, CONCLUSIONS, RECOMMENDATIONS

The present study assesses the position of women in IT industry in Kerala in the wake of the popular belief that technology associated with IT is more woman friendly as compared to technologies developed hitherto. However an examination of existing work revealed that in many countries, particularly western countries, women remain under represented in the IT technical work force and also exhibit a worrying decrease in their entry into computer related courses leading to introduction of a number of policy initiatives to attract and retain women in the industry. Studies in Asia provide evidence that rapid diffusion of ICT has had some beneficial impact on women and that they have made quantitative gains in the IT sector. Their numerical presence is visible, particularly, in certain verticals such as assembly line data entry or processing work, but their career progression in these new fields has been less spectacular, with most of them concentrated in the lower levels of the work pyramid and their presence in managerial and technical posts has been minimal. In India also, studies report that women remain under represented and constitute 15 – 25% of total IT industry work force except in ITES where it was 50% or higher. The major determinant of the low gender ratio in software appeared to be the availability of female graduate engineers, with very few girls at present opting for engineering degree courses which constitute the main pipeline supplying workforce to this segment of the industry. As more and more girls are revealing an emerging preference for engineering, a phenomenon reported more in the southern states than the north, the industry expects that the ratio of women in software employment will increase. Against such a background, the study examines the position of women in IT in Kerala so as to assess whether it provides a level playing field for female professionals in the state. The experience of women in Kerala is of special interest in that they stand out on the map of India for their high literacy, lowest gender gap in literacy rates and high physical quality of life.
and, as such, can be perceived to be in an ideal situation to make use of the opportunities opened up by the IT sector.

In this chapter we provide a summary of the main findings of the study, the conclusions arrived at and suggest some policy recommendations that can help to deal with some of the issues and challenges that surfaced during the course of the study. The chapter is divided into four sections. While the main findings of our research are summarized in the first section, the second details the conclusions arrived at based on these findings. The third section analyses the experience of software professionals through the framework of Amartya Sen’s capability approach which provides the foundation for many of the policy suggestions which are outlined in section four. The percentages quoted in the first section, are based on respective analysis detailed in various chapters.

9.1 FINDINGS OF THE STUDY

9.1.1 Growth of software and services industry in Kerala against the background of its development in India

Growth achieved by software and services industry, in the post liberalization period, is considered to be one of the biggest achievements of India which has projected the country to the limelight in the world economic scenario. Its significance in the Indian economy has increased, with the sector accounting for 5.12 % of the GDP in 2005-06 up from 0.22 % in 1993-94. It is believed to have created new opportunities for the educated, especially the skilled, leading to a reduction in their unemployment rates. A development which has led to rapid increase in employment opportunities within the country is the expansion of offshore model of software and services production relative to the onsite model. As a consequence, the former, which accounted for only around 43 percent of total IT Services /ITES export revenue in 1999-2000 contributed around 64 percent in 2003-2004, which further increased to 71 percent in 2004-2005. U.S.A and Europe were observed to be the two major destinations of software and services exports from India with both these countries together accounting for 90 percent of our total...
exports in 2003-2004. Of this, 68 percent was to U.S.A, the country having the largest global demand for software, and about 22 percent was to Europe. Women were reported to be under represented in the software segment (24% in 2004-2005) whereas their presence in the less skilled ITES segment was said to be higher at more than 50%. The industry also was observed to reflect a process of increasing entry of women over the years. Software and services firms were found concentrated in major mega cities of the country. Thus, of the 611 firms listed in the Nasscom Directory in 2003, more than 90% of them had their headquarters functioning from the six mega city regions- Delhi,/Gurgaon/Noida, Mumbai/Pune, Bangalore, Chennai, Hyderabad/Secunderabad and Kolkata. Kerala was found to have an insignificant share in India’s software and services scenario, with the state accounting for less than 0.5 percent of the country’s exports.

Kerala was one of the first to initiate the technology park concept in India with the setting up of Technopark in Trivandrum in 1991 for providing appropriate environment and encouraging private initiatives in setting up hi-tech electronics and software industries in the state. Software Technology Park of India, Trivandrum (STPT) also was set up to provide timely export clearance and data communication links and thereby promote export oriented firms in the state. Despite such early initiatives, however, some where down the lane the state lost its momentum and while other southern states cashed in on the IT boom, Kerala was left lagging behind. But of late, there is increasing expectation in the state on the prospects of IT as an enabler of the region’s economic development and as a growth engine to provide solutions to some of its most important problems like high unemployment and low economic growth. Correspondingly the Government of Kerala has come out with its IT policy statement in 1998 and 2001 where software and IT enabled service industries are identified as thrust areas for economic development of the state. The state with its high literacy rates, huge premium assigned to education, large number of educated men and women seeking white collar jobs, high density of science and technology personnel, extensive fiber optic network, two submarine cable landings at Cochin, fifty percent operational cost compared to other IT locations and sixty percent lower rental rates is considered to have many of the
social and physical infrastructure required for development of IT industry. Certain facts point to a gradual take off in this industry in Kerala in recent years. Either due to the revitalized encouragement and initiatives of the state government or as a part of the gradual movement of IT away from tier one cities to tier two cities due to overcrowding in the former, Kerala’s potential for IT development is being increasingly recognized and highlighted. The arrival in Kerala of IT stalwarts like Infosys and WIPRO and ITES majors Sutherland, ACS, Outsource Partners International, Allianz Cornhill etc. also stand testimony to this take off. Reports from IT commercial space providers Technopark, Infopark and other private providers (Trans Asia, Muthoot, Leela, Larson and Toubro) indicate that all built up space is immediately being taken up by IT companies and that there is a pent up demand for further space. This was also supported by available data which revealed that in recent years software and services exports from the state has grown at rates comparable to/ better than that at the all India level.

Spatial analysis revealed that most of software and services exports from Kerala were at present concentrated in the twin cities of Trivandrum and Kochi. Thus of the total Rs 313.23 crores worth of exports in 2004-2005, 14.20% were from firms located in Kochi, of which Rs 10.83 crores were by units located in CSEZ and Rs 33.65 crores by units registered with STPI but located in Kochi. 83.98% of total exports (Rs 263.04 crores) were accounted for by units registered with STPI and located in Trivandrum- both within and outside Technopark. Technopark companies accounted for a major share of this accounting for Rs 237.54 crores. Exports from other locations namely Trichur, Palakkad and Calicut amounted to less than 1% of total exports.

Analysis of exports in terms of its main segments (1) software and (2) ITES / BPO indicated that the former accounted for a major chunk of the industry (86 percent) whereas ITES/BPO formed only around 14 percent of export activity. One possible reason for this could be that most of the software activity was observed concentrated at Trivandrum, while Kochi was observed to be only picking up in the IT field. But with the SEA- ME- WE 3 and SAFE submarine landings, Kochi is being projected as a potential excellent centre for ITES activity and, with the arrival
of ITES majors Sutherland, ACS, Outsource Partners International etc: in Kochi, we may not be unreasonable in expecting a gradual change in the composition of software and services industry in future.

Similar to the all India scenario, U.S.A and Europe were the two major destinations of software and services exports from Kerala. But the picture in the state was perceived to be slightly different in that the major chunk of exports from here were to European countries ie, about 47.50 percent in 2004 – 2005 as against a mere 22 percent at the all India level. Exports to U.S.A. constituted only 39 percent of the state’s exports whereas the corresponding figure for India was nearly 68 percent. The existence of companies with European connection like Ernst and Young, Allianz Cornhill etc: could partly be responsible for such a regional difference in export destination.

An analysis of firm size in terms of export turnover revealed that the industry in the state had a pyramidal structure with 64 percent of total firms having a turnover of less than Rs. 1 crore per annum. About 30 percent of firms had annual revenue between Rs. 1 crore and Rs.10 crore. When both these categories were considered together, we found that about 94 percent of the firms in Kerala had annual turnover less than Rs. 10 crores while the corresponding figure for India in the previous year 2003-04 was around 84 percent. Further there were only 5 firms in the state with turnover between 5-10 crores annually and only 3 firms which could claim turnover between Rs 50-100crores. There were no firms with exports above Rs.100 crores whereas there were about 94 such firms in India in 2003-2004. Even if one accounts for the fact that, due to the peculiar boundary less nature of software and services activity, it is very difficult to precisely identify geographical location of exports, our data corroborates the general perception that Kerala lacks large IT players.

Information gleamed from various sources indicate that in March 2006, the employment in Technopark alone crossed 10,000 out of which more than 9000 were involved in software/ITES production with the rest engaged in various support/administrative services. Similarly around 2600 IT professionals were reported to be
employed in InfoPark. Software employment in CSEZ units was reported to be about 685. Thus these three together alone accounted for around 13,000 professionals.

9.1.2 Findings pertaining to software and services workforce in Kerala

The findings pertaining to software and services workforce are categorized into two groups- those applicable to software segment of the industry and those related to the ITES segment. Thus this section consists of two main divisions.

9.1.2.1 Findings pertaining to software workforce in Kerala

9.1.2.1.1 Entry and location of women in software workforce

An analysis of the entry and position of women in software sector in Kerala, based on a study of a sample of thirty four firms engaged in software export activities and located at Trivandrum and Kochi, revealed that of the total 8627 technical professionals reported to be employed in the sample firms, 6204 or 71.91% were males and females constituted only 28.09 % of the technical workforce. Firm wise analysis revealed that 22 firms or about 69% of the sample firms employed less than 30% of female professionals in their technical workforce. 7 firms (21%) employed between 30 and 35% females, while two small firms had 41 to 45 % females. There were also two firms – one small and one medium-which had more than 50% females in their technical workforce. Split up of these total professionals into different job verticals revealed that around 82% of the total technical workforce were concentrated at the bottom of the work pyramid ie, at the so called software operations level. The middle level or the so called tactics level had 8.05% and 6.32% of professionals at the team lead / project lead level and assistant project manager / project manager level respectively. Delivery managers / unit heads / chief executive officers who were responsible for strategic decisions constituted 1.82 % of the professionals and were concentrated at the top of the work pyramid.

A gender wise analysis revealed a larger proportion of females concentrated at the bottom of the work pyramid compared to the males. Thus 87.16% of total
females were located at the bottom operations level and only 0.41% were observed at the top strategic level whereas the corresponding percentages for males were 82.51% and 2.37% respectively. A slight difference was also observed in the middle or tactic category level of team lead/project lead and assistant project manager/project manager. An analysis of the percentage of males vs females in different job categories also revealed a steady decline in the percentage of females as one moved up the ladder. Thus while 29.21% of the total software engineers were females only 24.64% of the total team leads and 23.85% of the project managers were females. The decline was most remarkable at the strategic level with females occupying only 6.37% of the top level positions. This declining trend was observed across all firm sizes—large, medium as well as small.

### 9.1.2.1.2 Skill profile and demographic characteristics of software professionals

An assessment of the social and demographic characteristics indicated that young, unmarried professionals with a lower/upper middle class and educated background constituted the major chunk of software workforce. Very few professionals belonging to scheduled caste/scheduled tribe were found, pointing to the existence of an entry barrier for professionals from less privileged castes which was all the more stronger in the case of females. Engineering degree courses were observed to be the main pipeline supplying professionals to the software industry with more than two thirds of professionals having such an educational qualification. M.C.A/M.Sc computer application courses provided another relevant source of supply but the study indicated that less number of females with non-engineering degrees get into the field compared to males. Among the professionals with an engineering background most of them (around 85%) had a degree in either computer science engineering, information technology, electronics and communication or electrical and electronic engineering. The rest 15% had a varied background which included civil, mechanical, production engineering etc; which lends support to the view that IT companies also hire personnel from any branch of engineering since they believe that engineering courses train students in logical thinking, problem solving and analytical skills which are essential for software programming. However such cross branch immigration was perceived to be more
common among male professionals than females with very few females from other non computer branches getting into the industry. While around two thirds of professionals were found to have had privileged private school education, surprisingly one third of the professionals had done their schooling in government schools. Here also a gender difference was observed with a lesser proportion of females having a lesser privileged education background finding entry into the field compared to males. Around 25% of the professionals were observed to have a non English medium school education which was against the general perception of software field –that it excludes students from government schools and that its employees are mostly from private English medium schools who have acquired the social and cultural capital necessary for survival in the field.

9.1.2.1.3 Perception of software professionals about suitability of IT jobs for women and gender equality in the workplace

More than 70 % of the professionals were of the view that IT field provides better opportunities for women compared to other professions. They opined that the educated and cultured atmosphere of the field provided a conducive environment for females to work without hassles or discrimination. But most of them had a gendered perception that there were certain specific jobs within IT which were more suited for women and certain other activities which were less suited. Human resource related jobs which required people skills and quality testing which had relatively more predictable timings were considered to be more suitable for female professionals while marketing was considered to be the least suited. Surprisingly only around 40% of the professionals considered software programming to be suited for women. More than half the female professionals (53 %) and nearly two thirds of male professionals (63%) did not consider it suitable work for female professionals. Lack of fixity in working hours, stress involved in meeting project deadlines and need for travel were considered to be factors rendering it unsuitable. So also offshore jobs were reported to be more suitable for female professionals than onsite jobs but this reflected a gendered perception with more females perceiving onsite jobs to be suited compared to their male counterparts.
Analysis of the perception of professionals about gender equality in different work characteristics indicated that most of the professionals believed in the absence of gender differences in characteristics like salary earned, communication skills, team working, technical skills, type of work done and productivity. Thus in general, they perceived the software field as a gender neutral workplace. However, this perception was more deep rooted in the minds of female professionals and a not insignificant percentage of males reported gender differences in many of the important work characteristics, particularly when it came to the issue of taking on responsibilities and leadership roles. This opinion was also echoed by managers of the firms who opined that a large section of female professionals in the state exhibited a reluctance to take on responsibilities or leadership roles even when they had the technical capability. The long work culture and the travel required at higher positions prompted some of the married females to stick to less demanding roles so that they could combine family and work. But what was found surprising was the reluctance shown by some of the unmarried females to take on more responsible roles. One reason pointed out for this by managers was the family centric attitude of majority of female professionals which along with difficulty observed in combining rapid career development and good family life made them less aggressive, limited their ambitions for career development and shaped a perception of jobs as a source of earning good income rather than as a means of reaching the top rungs of their profession. Another reason identified was the upbringing in the family, particularly rural and less educated families, where the females were more often followers than leaders. This upbringing also got reflected at the workplace where they were more comfortable with the familiar follower role than the unfamiliar leader role. But in the case of ladies with a metropolitan and more educated background the family responsibilities explanation was found more applicable than the latter.

Gender differences were also reported in terms of the ability to work overtime and mobility. With more than half the professionals rating these characteristics as important for promotion, such constraints were bound to affect their progress up the job ladder. This was reflected in the fact that these two job
characteristics were identified by professionals to be the next most important reasons for there being less women at the top of the work pyramid, the primary one being responsibilities at home.

Reflecting the above perceptions, almost all the professionals spoken to felt that this field as such offers no clearly visible glass ceiling for women and that their career growth till marriage was on par with men. So they generally reached the middle management level of team lead and project manager without many constraints. But after marriage, the onset of family responsibilities coupled with the long and unpredictable work culture of the industry and frequent travel forced many female professionals with high growth potential to voluntarily put themselves on the slower track so that they could have a better work life balance. Thus the work culture of the industry combined with the gendered social roles ascribed to females created an invisible ceiling which confined most of them to the middle management level and prevented them from reaching the maxima of their career potential. Case studies revealed that such decisions were often the source of tensions and conflicts in their minds, which created a sense of failure on both family and professional fronts.

9.1.2.1.4 Empirical verification of gender equality in remuneration among software professionals

Analysis of variance, done to test for equality of salary indicated that gender does not have a significant effect on salary at least among younger age groups. Educational qualification, job designation and number of hours of work put in per week by professionals were also found not significant in explaining salary variations among professionals. The variable found having a significant impact on salary levels was number of years of experience of the professional. Thus significant differences in salary was not observed between male and female professionals, at least at the initial career stages, which lent empirical support to the perception of professionals that there were no substantial gender differences on this particular job characteristic.
9.1.2.1.5 Social and cultural dimensions of software industry

Growth of IT industry in Kerala with its heavy reliance on exports, particularly to western countries, was observed to have set in motion significant changes in Kerala society. Thus with the development of the industry, the state was witnessing the gradual emergence of a ‘demi- modern’ young woman- more modern in outlook than found in other traditional professions. She was independent, had a high status in society, was geographically mobile and willing to relocate outside the state / overseas even before donning the cloak of security called ‘marriage’. She was well versed with western social etiquette, corporate culture and free in intermingling with her male counterparts. Yet she remained traditional in her mode of dress and attitude towards the institution of marriage. She considered her career as secondary to family and had not reached the outlook of some ultra modern professionals seen in metros like Bangalore who considered marriage as ‘an invitation for trouble’. However the knowledge that marriage would pose constraints on her new found freedom and career mobility made her try and delay her marriage beyond the average age so that she could enjoy her freedom for a longer time. A reverse trend was observed among male professionals with at least some professionals expressing a desire to marry at a much younger age than the socially accepted age of marriage for males. A gradually increasing inclination to choose life partners on their own was found among the professionals. A gendered preference for life partners from the same field was also observed with a large percentage of male professionals not desiring a spouse from the same industry while a reverse inclination was observed among female professionals.

Certain changes in attitude on the part of family members and society in general was also observed with most of them accepting atypical working hours and increasing geographical mobility on the part of even female professionals. It also was an illustration of the influence of economic factors- here high remuneration- in moulding acceptable social and cultural standards in society. But such liberal attitudes was found unaccompanied by a corresponding acceptance of females travelling alone at night on public roads. This coupled with the general company transport policy of having drop off points only at certain strategic locations on the
main roads till about a certain time in the night posed additional hardships and constraints for female professionals that were state specific. Sedentary continuous work in front of computers coupled with lack of physical exercise was also found to have adverse consequences on the health of professionals with more adverse impact reported among female professionals compared to their male counterparts. However a large majority of firms as well as employees were found to be unaware of its danger or if aware, preferred to wish it away / turn a blind eye rather than take corrective measures.

More than half the sample professionals concurred with the view that it was possible to combine software work with reasonably good family life. The lesser amount of time spent daily on commuting within the state, flexibility of work timings offered by many firms, the prevalence of five-day week and common practice in the state of not generally working during weekends were reported to be important factors contributing to reasonable work-life balance. The consideration given to female professionals in Kerala and reluctance in asking them to stay back was also quoted by many female professionals as a reason for their ability to attain a reasonable work life balance. A gradual change in this special consideration was reported with the expansion of the industry within the state, advent of bigger firms with better transport facilities and substitution of a common all India work culture in the place of state specific work culture and entry of more young and ambitious female professionals into the field who were willing to put in extensive hours of work. It needs to be highlighted that discussions with male professionals revealed a frame of mind where not much importance was assigned to the concept of work life balance as such among professionals. Hours of work extending late into the evening was accepted by many as a necessity due to the offshore model of work catering to U.S or European clients. Such a long work culture was considered to be a characteristic feature of the industry throughout the country as a whole. Most professionals also clarified that if one really wanted to excel in the field then achieving work life balance was more difficult.

A revival of the institution of joint family was also observed among many software professionals with grandparents taking up the role of homemakers, a role
they were donning a second time in their lifecycle. A shift from ‘male bread–
winner, female home-maker’ family model to a ‘male bread–winner, female bread-
winner’ model was also noted. However most women professionals, even those
with great potential, were found to put limits on their career growth after having a
family so that they could have a better work life balance.

9.1.2.1.6 Impact of IT industry on engineering education in Kerala

IT industry was also observed to have had a considerable indirect effect on
technical education in Kerala which in recent years has seen the large scale entry of
private players who were guided more by market forces or people’s preferences for
various courses. It has resulted in domination of engineering degree courses by
computer disciplines and a relative decline in significance of other traditional
branches like mechanical and civil engineering. It has also, to a certain extent,
brought about gendering of engineering education in the state with a greater
percentage of female representation in computer related courses compared to
traditional disciplines. This gendering process along with higher female entry in
other new knowledge economy courses like biotechnology, biomedical engineering
etc have helped women to marginally improve their presence in overall engineering
education field which has so far proved elusive to the gender parity observed in
general education in the state. Thus the phenomenon of declining female entry into
technical education witnessed in western countries was not found relevant here.
Therefore, as far as women in information technology sector in Kerala are
concerned, what may be more relevant is a ‘Women and Technology’ approach
which focuses on wider social and cultural issues rather than a ‘Women in
Technology’ approach which aims at attracting more women into computer courses.

9.1.2.2 Findings pertaining to ITES workforce in Kerala

9.1.2.2.1 Entry and location of women in ITES workforce

Greater feminisation of work force was observed in the ITES field in Kerala
compared to the more technical software field with females constituting around 45
% of the total ITES workforce. Female representation was observed most in the area
of medical transcription where they constituted around 52 % of total professionals. Medical transcription was also observed to be one of the earliest ITES activity to be started in the state and most of the firms were found to be medium sized and smaller in terms of employee strength. Presence of females in various financial activity related firms were found to be slightly less at around 43% which was but better than software segment. These financial services firms, though less in number, were conspicuous by the larger scale of operations and multinational character.

Distribution of female professionals across various job verticals indicated a picture similar to that in software services field with a larger proportion of female professionals concentrated at the bottom of the work pyramid.

9.1.2.2.2 Skill Profile and demographic characteristics of ITES workforce

Graduate degree holders were observed to be the main source of supply of labour to the ITES field with more than half the sample professionals having a graduate degree in either science, arts or commerce streams. The workforce at present was found to consist mostly of young men and women and was found to reflect an urban bias with very few professionals from an agricultural background. Most of the professionals came from an educated family set up. Surprisingly nearly one third of sample professionals had studied in government or state schools and about one fourth of the total professionals had done their schooling in local medium which was against the general perception of IT field –that it excludes students with less privileged educational training. This could be probably due to fact that a large chunk of ITES activity in the state at present was non voice based which does not require much of soft skills. The trend observed in major metros of reasonably good students entering the ITES field after acquiring their plus two degree and continuing their education while in employment was only slowly getting a kick start in the state. Thus very few professionals with such education were found employed in the field. A few other professional degree holders were also found working in areas totally unconnected to their area of specialization.
9.1.2.2.3 Perception of ITES professionals about gender equality in the workplace and other work characteristics

Majority of professionals (more than 75%) believed there were no gender differences in characteristics of work like salary, communication skills, team working, type of work done or productivity. Compared to software sector very few people reported a substantial gender difference even in characteristics like overtime working or geographical mobility. This can partly be ascribed to the prevalence of shift timings and lesser need for travel in ITES field relative to software field. However a similarity was observed with software service professionals in that there was significant gender differences in perception related to certain characteristics like type of work done, productivity, leadership and responsibilities undertaken with, a larger proportion of females believing in absence of any gender difference compared to males. Generally more male professionals perceived themselves to be having higher productivity, greater leadership qualities and taking on more responsibilities compared to the females. This echoes the finding observed in software services sector and lends reinforcement to the fact that though in general, large number of professionals considered IT sector to be a gender neutral place, the conviction of equality was much more ingrained in the minds of female professionals and a not insignificant portion of males perceived gender differences in many of the core work characteristics.

9.1.2.2.4 Empirical verification of gender equality in remuneration among ITES Professionals

Remuneration in the field was generally found to be target / performance based. A basic salary was fixed which was very low. The rest was mostly linked to targets achieved. Our analysis of remuneration of sample professionals did not reveal any significant effect of gender on salary. Or in other words gender did not seem to be a relevant factor in explaining salary levels of different professionals in the sample. Unlike in the software field, salary was not found linked to years of experience, but was purely target based which caused tensions in the minds of
senior professionals as to whether they would be able to work with similar intensity and achieve targets after a certain age.

9.1.2.2.5 Social and cultural dimensions of ITES industry

Certain social changes observed in the software field were witnessed in the ITES field also. Thus there was increasing social acceptance of atypical working hours, greater willingness for geographical relocation on the part of both male and female professionals and increasing socialization at the work place accompanied by deepening social isolation in personal life. Female professionals also reported an improvement in status, self confidence, assertiveness, independence and communication skills. The tendency to delay the age of marriage among female professionals and to pre-pone it among a few males as well as a rising inclination among professionals to choose their life partners on their own was observed here also. On the flip side, professionals employed in ITES industry were also, like software professionals, found subject to a number of occupational ailments like eye strain, headache and back ache. In addition, the existence of night shifts were also responsible for causing sleep disorders and depression.

Certain segments of ITES industry, particularly voice based BPO activity was observed initiating fundamental changes in the social and cultural life in the state. A diversified culture was observed in the entire industry with a distinct difference existing between smaller Indian owned firms and bigger multi national companies. A more orthodox culture with typically conservative work atmosphere was observed in the former while a more modern, college- life reminiscent atmosphere was witnessed in the latter. A distinction was also observed on the whole between professionals engaged in voice based activities compared to those in non voice based activities. Such contrasts were found more glaring in the case of female professionals than among males. On one fringe of the ITES industry scenario, one could observe the typical lower/upper middle class Keralite with all the associated behaviourisms, attire and culture while on the other end were the employees engaged in certain voice based BPOs who were more attuned to modern westernised attire and social behaviour. Such pro- western social behaviour was
found more in professionals native to other states as well as amongst Keralites who had relocated back here after working in bigger metros. It was also said to be exhibited more by professionals staying in hostels/ or other rented accommodation far away from their family as compared to professionals commuting to work daily from their parent’s home.

Compared to software field, a larger share of females in ITES stated that they had not faced any problems regarding transportation arrangements at night since almost all the firms had cab pick up and drop -off facility right from their place of stay. The gender difference in preference for a spouse from the same field observed in the IT field was also not observed here with slightly more than half the sample professionals –both male and female expressing a desire not to marry from the same field. A larger percentage of ITES sample professionals were also found residing in their own houses compared to software field, reflecting the general trend observed that a major chunk of professionals in the industry were from neighboring localities. This phenomenon was observed more in small local firms where the remuneration was often not enough to warrant the additional expense of paid accommodation. It was also found applicable more to male professionals than females. Also a greater percentage of ITES sample professionals were of the view that it was possible to combine ITES Work with family life as compared to software professionals. Existence of shift timings were generally believed to result in greater fixity of work hours compared to the software field and consequently better work life balance. ITES industry was also witnessing the emergence of a new mode of work organization namely home based tele-working in certain activities like medical transcription which has helped to relax the geographical and age barriers for entry of females into the workforce. However they were also observed to be facing a number of challenges in their pursuit of this avant-garde mode of working.

9.2 CONCLUSIONS OF THE STUDY

Based on findings of the study presented in sections 9.1.1 and 9.1.2 we arrive at the following conclusions
9.2.1 Empirical data does not support our first hypothesis that women are well represented in the IT (software and services) field and that there is no gender bias in employment of women in the field at the entry level.

Women representation in technical side of software industry in Kerala is less than the 40% estimated in a previous study done for Technopark\(^1\). It remained closer to around 30% with frequent variations on either side depending on intake and attrition rates. However their representation in the field was comparable to, if not better than that at the all India level where it was estimated to be only around 24\%.\(^2\) Increasing entry of women into the workforce was also reported in the state and the gender ratio was expected to increase over the years. What was clear was that women’s presence in the software workforce was less compared to their entry into engineering degree courses which were the main pipelines supplying technical labour to software industry. While interstate migration/flow of professionals could be posited as one explanation for the relative under representation of females in workforce compared to their entry into relevant educational training, another dimension that was identified as worth future exploration is the possibility of leakages of women from the professional field as result of marriage and the gendered social roles that they are expected to perform. A greater feminisation was observed in the generally less skilled ITES field with nearly half the workforce being women.

Despite increasing entry of women over the years into the industry, a type of gender bias was observed in entry level employment with lesser percentage of women from non engineering field and with non premium school education gaining employment compared to their male counterparts. The existence of an entry barrier was also indicated for the employment of professionals belonging to scheduled castes/ scheduled tribes with the barrier being stronger for females than males. However a positive feature noted was the entry of a non insignificant percentage of

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total professionals with less elite educational background into both software and ITES fields which belies the perception of general exclusiveness of IT field.

9.2.2 Our research leads us to reject our second hypothesis that adequate representation of women is seen at all levels in the work pyramid. Women were observed concentrated at the lower end of the work pyramid and remained under represented at the top level jobs indicating the existence of a glass ceiling in the field. Thus gender based vertical segregation was observed in the IT field with a greater proportion of women concentrated at the bottom of the work pyramid in both software and ITES segments compared to their male counterparts. However the software field, with absence of significant gender differences in wages, technical skills, communication skills, productivity, promotion prospects and other work characteristics in general was perceived to be gender neutral, offering a level playing field for unmarried women employees. Women were reported to stand a higher chance of reaching senior positions in this industry compared to traditional branches of engineering but a pre-requisite for this was complete devotion to the job relegating all other social and caring responsibilities to the background. Thus there existed no visible glass ceiling for single women professionals and disparity till the level of team lead / project manager can be partly attributed to the relatively late entry of women in larger numbers into the field and partly to the reluctance on the part of a few females to take on responsibility. However the demanding nature of the job ran counter to the needs of the family. The intense work culture, atypical working hours stretching later into the evening, pressures of project based work with deadlines and need for travel all added up to create an invisible glass ceiling for ladies with family commitments which forced them to confine themselves to the middle management levels. In ITES field the greater extent of policing needed at managerial levels as well as aggressiveness and diligence needed in planning career advancement were reported to be the main deterrents for female career progression. The traditional patterns of vertical sex segregation observed in other fields was thus seen reproduced in the information economy also.

9.2.3 The study provides empirical support to our third hypothesis that IT offers a level playing field for women employees without significant gender differences in
wages, technical skills, communication skills, productivity and other work characteristics. This was observed to be particularly true in the case of professionals in their initial career stages. The technique of analysis of variance helped us to conclude that in the case of software industry, years of experience, and in ITES industry, job designation were the variables statistically significant in explaining remuneration differences. Gender was not observed to be a relevant variable influencing salary among young professionals in both software and ITES segments of IT industry. Thus the gender disparity in remuneration reported in other scientific and technical fields in India was not observed in the IT field particularly among young professionals. The general fear that women may face a remuneration disadvantage when not under the protective cover of collective agreements related to wage levels seems to hold not much relevance as far as young professionals in the software and services industry are concerned. These women professionals seem to be able to hold their own ground against their male counterparts in the highly individualized and performance based wage fixation in the new economy.

However the work culture of the industry coupled with onset of caring responsibilities after marriage was noted to turn the so called level field into an unequal one for female professionals with family commitments indicating that this hypothesis need not generally hold for senior professionals. However lack of empirical information on remuneration at older ages prevents us from arriving at a more accurate conclusion in the case of senior professionals.

9.2.4 Our research provides data that encourages us to accept our hypothesis that IT work is contributing to women empowerment with an increase in independence, status and assertiveness of women employees. The tag as an IT professional, even when located at lower levels of the career ladder were reported, by a large majority of female professionals in the study, to contribute to an increase in women’s status in society and their prospects in the marriage market. This was stated to be all the more if the employer firm was located in the two technology parks-Infopark or Technopark. The flatter hierarchical levels of work organization, free intermingling between male and female professionals and exposure to a global corporate culture
was also observed to lead to greater self confidence and independence among female professionals which in turn augmented their empowerment.

**9.2.5** The study also leads us to accept our hypothesis that IT work is instrumental in initiating fundamental changes in the socio-economic fabric of the state. Some of these changes found applicable in the state’s context were increasing recognition of atypical/non-standard working hours by family and society, acceptance of intra and inter-country geographical mobility for female professionals even before marriage, changes in family structure with a resurgence of the institution of joint family, a trend towards increase in the age of marriage for female professionals and a decrease in that for male professionals. However such increasing acceptance of atypical work hours was not observed to have initiated any corresponding changes in females travelling alone at night on public roads which created problems for some of these professionals. IT based work was also observed to bring about increasing socialization in the office and to encourage western attire and social behaviour which was visible more clearly in voice based BPO firms. Such increasing socialization at work was also noted to co-exist with greater social isolation in personal and family life. On the health front, IT related work was found to create a class of professionals suffering from various occupation related ailments at a very young age.

**9.2.6** Case studies of professionals lead us to accept our final hypothesis that IT work is leading to the emergence of new forms of working such as tele-working, flexible working etc: which have the potential to help women cope better with the tensions and challenges they face in their double role as home managers as well as professional workers. Home based tele-working was observed to be becoming popular in certain segments of the industry such as medical transcription. It was found to relax the barriers of age and geographical location for females and encourage their re-entry into the workforce after their caring responsibilities were lessened. However at present they were also observed to be facing a number of challenges in the pursuit of such non conventional modes of working.
9.3 GENDER EQUALITY THROUGH THE LENS OF AMARTYA SEN’S CAPABILITY APPROACH

An analysis of the concept of gender equality using the capability framework of Amartya Sen lays the foundation upon which we build the structure of our main policy suggestions for women in the IT field namely the introduction of a gender sensitive culture into the field and making available different modes of working more suitable to the information age which can widen the choices open to women professionals. Hence we give a brief sketch of Sen’s capability approach as a prelude to detailing our policy suggestions.

9.3.1 Sen’s capability approach

According to Amartya Sen, the space of capabilities provides the most fruitful and ethically satisfactory way of looking at equality. He believes that, to the extent that a society values the equality of persons and pursues that as one of its social goals, equality of capabilities is the most relevant sort to aim at.

The major constituents of his capability approach are the capabilities and functionings. Functionings are the ‘beings and doings’ of a person. These beings and doings together constitute what makes a life valuable. Functionings include working, resting, being literate, being healthy, being part of a community, being respected, and so forth whereas his /her ‘capability set’ is the set of alternative vectors of functionings that he/she could attain. Thus it is the alternatives open to an individual, what real opportunities one has regarding the life one may lead- the extent of his/ her positive freedom. Capabilities in the plural refer to the particular attainable functionings or an individual’s choice set. The distinction between achieved functionings and capabilities is between the realized and the effectively possible, in other words, between achievements on the one hand, and freedoms or valuable options from which one can choose on the other. What is ultimately important

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is that people have the freedoms or valuable opportunities (capabilities) to lead the kind of lives they want to lead, to do what they want to do and be the person they want to be. Once they effectively have these substantive opportunities, they can choose those options that they value most.

9.3.1.1. Significance of human diversity for capability enhancement

The capability approach acknowledges human diversity and stresses that fundamental disparities in individual opportunities to achieve well-being may exist among persons who possess equal amounts of primary goods/resources. Sen has shaped his framework to take into account the impact individual characteristics and social arrangements can have on a person’s ability to convert resources or capability inputs into valuable functionings. Thus in the terminology of the capability approach, there are factors which influence how well a person can convert capability inputs into capabilities. These conversion factors can be social (social norms, religious norms, sexism, racism, …), personal (disabilities, skills,…) or environmental (living in a dangerous area). For example a disabled person in a wheelchair, even if she has the same income as an able-bodied person, will need a lift if s/he wants to be able to use public transport, such as trains or buses, which able-bodied passengers do not need. Thus disability is a conversion factor which makes it harder for a disabled person to ‘convert’ a bundle of resources into the capability of being mobile, as long as there are no lifts in the buses.

The relation between capability inputs (means to achieve), individual capability sets (freedom to achieve) and vector of achieved functionings (achievement) are illustrated in the following figure which provides a schematic representation of the capability approach as represented by Ingrid Robeyens⁴.

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9.3.1.2 Intrinsic value of choice

Sen also suggests that individuals derive utility both from the range of options in the choice set as well as from the possibility to perform the act of choice themselves. For example a person who chooses a chocolate from among five different bars might derive more utility from this than a person who also got the same chocolate but did not have this option of choice. Thus the capability approach by distinguishing between functionings and capabilities can account for both the welfare derived from the chosen outcome (functionings) and welfare derived from the opportunity or choice set.

9.3.1.3 Capability approach as applied to the case of software professionals in Kerala

In the context of our study of female software and services professionals we consider three inter connected capabilities relevant to women namely 1) capability of non market care 2) the capability of paid work and 3) capability to attain maximum career potential. While the first two, have been included among the list of
capabilities identified by Robeyns⁵, the third capability ie, capability to attain maximum career potential is one which surfaced as very relevant for gender equality for software professionals in the state⁶. The capability of non market care generally involves raising children and taking care of other dependents including the elderly as well as domestic work. At this juncture, it needs to be emphasized that software professionals in Kerala have been reported to maintain equilibrium in their lives without increasing their own workload through a process of delegating domestic work to paid help.⁷ Thus in the state’s context what appeared to be more relevant regarding this capability was raising children and taking care of other dependants. The second capability mentioned above ie, of paid employment has been given a lot of focus in Sen’s framework of development as freedom. He argues that paid jobs help women to become financially independent from their husbands and fathers, and to make their own choices in consumer and financial markets. Sen adds that the freedom that goes with paid labor brings important values for women such as self esteem, dignity and autonomy⁸. A question that often is stated to arise in this context is - if all women engaged more in paid work who would do the unpaid caring? In all likelihood, either women would be overburdened with a double workday or many caring needs would be left unattended. Hence often in real life there is a trade off between women’s freedom and care which lowers the functionings of the caregivers⁹ (most often meaning women). Such a trade off often becomes critical during the early child rearing years in a women’s life and frequently results in an application of either- or situation in the case of these two

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⁶ This was a capability identified as relevant to the case of our professionals keeping in mind the fact that Sen does not stipulate which capabilities should be taken into account and application of the capability approach generally implies the freedom to choose the relevant capabilities.


capabilities. We argue here that this ‘either – or’ option is much more extreme in software work as compared to other traditional nine to five type of office employment due to existence of the former’s work culture involving extended and unpredictable work hours, travel etc. At the same time IT work which is free from spatial constraints, has the potential to enable better compatibility of these often competing capabilities (i.e. that of non market care and that of paid work) through the introduction of new forms of working such as home working and flexible working.

The third capability i.e., capability to attain maximum career potential is one which was identified as very pertinent for gender equality during the course of our study. During the survey we came across a set of female professionals who excelled in technical courses, had the ability and willingness to compute and as a consequence, had the means to outtrivial their male counterparts as well as achieve rapid career progression. At this level individual entitlements did not differ between men and women. But once the personal and social conversion factors of marriage and parenthood set in, they combined with the intense and unpredictable work culture of the industry to impose significant limitations which narrowed down women’s individual capability set and her freedom to achieve. It constricted the choices open to these professionals, particularly constrained their capability of attaining their career potential and ultimately tapered down their vector of achieved functionings. The apparently gender neutral software field thus revealed a clear process of gender divide when it came to career progression. Thus in a highly gendered society like in Kerala, where the caring responsibility almost wholly rests on the females, the field exhibited decidedly gendered tones as was clear from the number of case studies detailed in chapter four which were but representative of many similar stories that surfaced during our survey.

Based on the above capability approach which acknowledges human diversity and stresses that different people need different types and different amounts of capability inputs to reach the same well being we propose that present work schedules are more suited for single homogenous professionals without any caring responsibilities and reflect a masculine culture at senior career levels more suited to men with wives at their side who would take care of the house, the
children, the frail, elderly and all community relations. These are not gender or family friendly being based on neglection of human diversity and on an unrealistic picture of how people live their lives, and would like to live their lives. A reorganization of working hours to integrate a gender sensitive culture and commitments is thus the need of the day.

Application of the concept of intrinsic value of choice to the case of our software professionals also leads us to argue that provision of various forms of working will serve to enhance the capability vector of women professionals and offer them an array of options from which they can choose a particular functioning depending on the way they want to live their lives. Such an array of options, we posit, will enhance women’s welfare since they will derive utility both from the range of options in the choice set as well as from the possibility to perform the act of choice themselves. What is needed is such policy decisions taking human diversity into account which will help to enhance women’s capability set and offer them a wider collection of choices.

9.4 RECOMMENDATIONS / POLICY SUGGESTIONS

On the basis of the above discussion, we suggest that in Kerala’s context, where increasing entry of women is observed in computer related technical courses, what is relevant to encourage greater entry and progress of women in IT field—particularly software field—are post-entry labour market measures rather than the pre-entry measures initiated in western countries to attract women into technical courses. What was most important was creation of a work environment and introduction of work options which would enable a better compatibility of the competing capabilities of paid work and non market care. Discussions with professionals indicated that there was no single policy applicable across the board to all female professionals. What was needed was a multitude of work options that would offer a wider range of choices to females with the actual selection of an option being subject to the situational context and preference map of each professional. Apart from the recommendations more relevant for female professionals, a few suggestions which help address a few issues common to all
professionals are also detailed. Thus the main recommendations include the following:

9.4.1 **Suggestions specific to software professionals - introduction of new work options**

Computers have the potential to alter spatial and temporal dimensions of work which can help professionals with family commitments to cope better with their dual roles. Thus new forms of working need to be introduced to meet the atypical work culture of the information era and to help these techno-savvy professionals to achieve better work life balance. Some of these new work arrangements include

9.4.1.1. Provision of an option of flexible working as beneficial to employees rather than the existing flexibility which essentially involves stretching of working hours to benefit the firm or employer. This was suggested by many professionals as the best policy to help women in software field. Different types of flexibility were suggested which could help attain a better work life balance for women professionals. A policy which would prove beneficial to professionals at the lower levels of job hierarchy was provision of flexible work timings along with an upper limit generally for punching in, which could be relaxed to deal with specific situations. This would help professionals, with children who go to school early like in Kochi, to punch in early and leave early whereas professionals (in Trivandrum) with children having 9-4.30 school timings could log in slightly later after sending their offspring to school. In this context it was emphasized that, as explained earlier in chapter five, what was needed was controlled flexibility rather than complete flexibility since exercise of complete flexibility by some could mean loss of this option for others.

9.4.1.2 A policy beneficial to female professionals at upper levels of job hierarchy or management positions was found operational in select software services firms in the state. This was the provision of a special type of flexibility whereby they could leave office early at around 4.30-5 p.m, attend to their family matters and then take
conference calls or engage in client interaction later at 8-8.30 p.m from their homes. The advantage of this policy was highlighted by a senior lady manager in a firm in Technopark who had been enjoying this facility. She explained that this helped her to be free during the crucial evening hours 6 p.m to 8.30 p.m when her children were at home after school and were attending to their homework or having their dinner. She supplemented that, in the absence of such an option, it would be nearly children’s bedtime by the time she got back from work which would have made her a weekend mom as was common in the industry. But she also added that she often felt guilty about leaving early from office when her team members were still working. Many of those team members were new to the firm and they did not know the extent to which she had worked to enjoy such flexibility. She also added that this sense of guilt often hindered her from exercising this option and she would have been more comfortable if there was greater awareness and acceptance of such forms of working.

Thus we see that such a facility offered to select employees were generally viewed by others as a special privilege which created a sense of guilt or uneasiness among the beneficiaries. Also, such options were at present found operational only in certain select firms and were available only to select employees. There is the need to make it the standardised norm rather than a special privilege which may go a long way in helping women in more effectively combining their capabilities of non market care and of realizing their career potential.

9.4.1.3 Most of the female professionals also felt that availability of the option of working from home on specific days/situations eg: when the child was ill would help a lot in achieving better work life balance. At present they were often faced with situations where, work being at a critical stage, they could not take leave when children were sick and at the same time they had no peace of mind at work since they had left their sick child in the care of paid help. Tight schedules sometimes led to lack of understanding and reasoning on the part of team leads /project managers. The probability of this happening was more when the managers were unmarried males who were not experienced in the intricacies of caring for sick children. As a consequence, work pressures sometimes resulted in great difficulty in sanctioning
of unplanned leave to deal with similar crisis on the home front as was explained by a lady professional who explained that when her colleague’s son was hospitalized due to asthma, the manager initially refused to sanction her leave request because of severe work pressure and he finally did so only after verifying with the hospital where the child was admitted. She also clarified that this was a rare case and people were usually more understanding. But this highlighted the fact that female professionals with caring responsibilities were often at present dependant on this understanding nature of team leads/ project managers which created a feeling of “lesser professionals” in them compared to others who did not have to request for such favors.

Again, such an option of working from home in specific situations was found to be available to professionals in some firms in the state. But they were usually offered as a solution to deal with ‘hartals’ or illness of professionals themselves. But the practice of offering such a facility to enable women professionals to meet their caring commitments is yet to gain acceptance in the industry.

9.4.1.4 Provision of an option of part time working was another facility desired by a few professionals particularly those having small children and not enjoying grandparental support in child rearing. Such an option, they felt, would help them to remain in the field, be financially independent and at the same time meet the demands made on them by family and society. Thus it would enable combining the often competing capabilities of non market care and paid work. However, the practical implementation of such a policy was stated to be doubtful on the part of management since they opined that the training cost of firms would go up disproportionately.

Again this practice was found operational in certain select, though rare cases in the state. But here also the situation was similar with the facility being offered to one or two individuals as a special preference depending on the extent of understanding and relationship with the management. In one case a situation had risen where the concerned female professional who had proved to be technically
very good decided to resign due to her inability to devote time to her infant child. Her valuable technical expertise and experience, long association with the firm, understanding nature of the manager all these together resulted in the offering of this ‘special privilege’ to her so that she could go home in the afternoon. Another case observed again involved a young mother whose child was found to have intolerance of food other than mother’s milk which left her with no option but to stay at home with the child. It was then that she was offered this option of part time working.

9.4.1.5 Strategy of tele-working or home working has been facilitated by the IT revolution and is considered a creation of the post-industrial "information" era. Many American companies now provide this option to their employees due to the business benefits (reduced office space/infrastructure requirements, better employee responsiveness), social benefits (reduced carbon emissions due to less commuting, less traffic congestion) and employee benefits (flexibility in working, better work life balance, saving of time spent on commuting). It is believed that most white-collar suit and tie workers will eventually transition to this mode of working and lose the suit and tie. Such an option was also found operational in Bangalore where it was available to employees of select companies like IBM.

But such a mode of working was preferred by very few professionals in the field. Discussions revealed that many software services professionals were not familiar with such a practice and were skeptical about its feasibility in their field. Connectivity problem, and need for team working were cited by professionals as major obstacles to technical implementation of software related tele-working. Surprisingly quite a large number of female professionals also were against working from home since they enjoyed the office atmosphere and feared social isolation, distractions at home and loss of visibility/promotion chances due to their absence from office premises. Some of them also expressed a determination not to take work home since they felt that work tensions would then spill over to the home atmosphere. Not surprisingly many of those who argued against home working were mostly unmarried, or if married, had either some form of parental support or
relatively grown up children. It was young mothers without such luxurious support who were found to favor and wish for the introduction of the practice in the state.

The management side of software firms in the state also were of the opinion that the concept was in-operable in the state at present. The explanation given by managers on this issue was that most of the professionals in the state/country needed handholding and guidance at present. They were not tuned to working independently full time like in the west. However it needs to emphasized that during our survey, we were also able to come across rare cases of the practice of tele-working being exercised very effectively in the software field within the state. In two cases the option was made available to lady professionals after childbirth since their children had health problems which necessitated constant supervision and they were faced with the only alternative of a career break. The main advantage of such a working arrangement pointed out was that it provided them an option of working which would have otherwise been impossible during this critical phase in their lives life. They explained that they were able to balance their work and life better since they had great flexibility in work timings. But it also had its disadvantages namely lack of opportunity to discuss issues with colleagues and power disruption particularly during rainy season. They warned that ability and confidence to work independently was a pre-requisite for this mode of working and that sometimes it may be not possible for beginners who lacked field experience. They also expressed a desire to continue with this mode for at least a few years more till their children started schooling after which they planned to switch back to regular mode of working. In another case such an option was offered to another lady professional in a firm in Kochi when she was advised not to travel because she was pregnant. Again her only alternative was to stop working and it was then that her firm offered her this option so that she would be able to continue working. She explained that she could take frequent breaks in between her work, rest and then continue with working. She was engaged in such a form of working till her delivery. The main disadvantage stated was that she used to feel bored sitting alone in front of her machine at home. In yet another case tele-working option was offered to a lady professional when her husband, who was in the same field, went on an
overseas assignment for two years. Though she was in a different firm, they offered her this option and she was able to work from overseas. She added that in one way it affected her career adversely since she became a software programmer where as she had been a project manager earlier. But still considering her circumstances, she perceived it to be better than the only other alternative of resigning and taking a break for a few years which she did not want to do. All these professionals also highlighted certain pre-requisites needed for tele-working to emerge as a facilitator of better work-life balance namely 1) delegation of domestic work to paid help which would help in maintaining equilibrium without increasing the tele-worker’s workload 2) greater awareness in society of home based work as real work which should not be subject to interruptions by social visits/ phone calls during working time and 3) provision of this arrangement on a purely voluntary basis with an option to revert to regular office based working when desired in future.

But as in the case of flexible working, this option was found to be available only to very few individuals on a case by case basis and was the product of an understanding management rather than the result of a general policy decision. This option, if available to all female professionals on a purely voluntary basis and with recourse to a reversal alternative later on, will enable a better combination of the competing capabilities of non market care and paid work specially during the critical child rearing phase, enhance women’s freedom through paid work and ensure important values for women such as self esteem, dignity and autonomy.

9.4.1.6 Discussions with professionals also revealed that they were more comfortable with provision of a variant form of home working ie, part time tele-working coupled with a core working time at the office say 10 a.m to 2 p.m. Such a policy, they felt, would enable them to engage in team meetings and discussions during the core time at office after which those with caring responsibilities could have the option of working from home for the rest of the day. The short time spent on commuting to office and the lack of confidence in working independently were found to be major reasons behind such a desire.
9.4.1.7 Introduction of an option to take one or two years of leave without pay during the period immediately after childbirth could be a boon to professionals without parental support. At present, it was difficult to take leave for such a lengthy period except on medical grounds and often women had to resign from their jobs if they wanted to do so. Fear of technological obsolescence, possible difficulty in re-entry and re-entry at a lower designation prevented professionals desirous of such a line of action from adopting it. Provision of a leave option with an assurance of re-absorption would serve to allay such fears. Schemes for short term- retraining in latest technical platforms if necessary after re-entry, also may be thought of to meet the fear of technological obsolescence.

9.4.1.8 Another practice found in some software firms was the introduction of shift system of working. Such a system was introduced mainly to tide over space constraints faced by firms. The usual practice was introduction of two different shifts one usually in the morning from around 6-7 a.m to 2-3 p.m and another from 2-3 p.m to 10-11p.m. When ladies were given the option of choice between these two timings it was reported to lead to better work life balance since each one automatically chose the shift more suited to their requirements. Once chosen, shift timings remained fixed for them as long as desired. Such an option of choice or fixity in shift timings was not observed in ITES firms where continuous rotation of shifts was a common practice.

9.4.2 Suggestions specific to ITES professionals

9.4.2.1 Provision of crèche facilities at the work place was an arrangement desired more by professionals working in ITES industry. Thus while grandparental support was the most preferred arrangement for child care by female professionals in both fields, differences were observed among other alternatives with career break and part time working being the next preferred options by software professionals, and least preferred by ITES professionals. The generally lower economic status of majority of ITES professionals compared to their counterparts in the software field and correspondingly greater need for remuneration packages could be a possible reason behind such a lack of preference for career breaks and part time working.
This indicates that different strategies and policies are needed to help these two different groups who were working within the same geographical campus.

9.4.2.2 Shift system of working was found to be the common method of work organization among ITES firms with professionals rotating between different shift timings periodically. However the freedom to choose preferred shift timings and fixity of such chosen shift timings for a relatively long period observed in the software field (in those firms where shift system was observed) was not generally available to employees in the ITES field where continuous rotation of different shifts were the norm. Such frequent change in work timings rendered it difficult to attain stability and regularity in family life. While rotation of night shift was inevitable due to inability of a person to continuously race against the biocircadian rhythm, greater fixity of other shifts and some element of option in choosing specific timings to female professionals burdened with family responsibilities, it was suggested, may go a long way to improving work life balance in the field.

9.4.2.3 ITES professionals pursuing home based tele-working were found to face a number of issues both due to lack of general awareness of such mode of working as well as due to current policy pursued by firms of not providing reimbursement of overhead expenses to such professionals. Thus there is a need to create greater awareness among society in general about such workers wherein they are perceived as equal to traditional office going workers so as to reduce disturbances due to unexpected social visits as well as phone calls. There is also the need to undertake a detailed and comparative study of facilities/extent of reimbursement of overhead expenses offered by employers to such workers in other countries so that they be introduced here also so as to minimise the negative aspects and maximise the positive potential.

9.4.3 Suggestions common to both software and ITES professionals

9.4.3.1 Reports of instances of stretching of work hours in certain firms during peak seasons also pointed to an urgent need for a regulatory authority to protect the interests of the employees at large. We have also seen that not much significance
was assigned to the concept of work life balance with extended work hours being very much accepted as part of the industry. The situation is expected to worsen with the onset of recession and the uncertain job market that professionals face. There are also reports of the industry planning to switch over to six day week in the place of five day week as is prevalent now. As reported in the study it was the provision of a free week end which enabled these professionals to achieve a reasonable work life balance. A detailed study on work life balance is needed to examine the potential effect of such a change on the professional’s lives.

Discussions with employees about the need for formation of trade unions as a regulatory authority to protect the interests of the employees revealed that at least some of them were against the formation of such unions in the field. They opined that unionism would only serve to drive the industry away from the state to competing destinations. They explained that what was needed were some alternative arrangements or industry associations which would protect their interests and at the same time foster the growth of the industry in the state. They also added that, for proper effectiveness, such measures should be addressed and adopted at the national level rather than at specific state levels.

9.4.3.2 Sedentary and continuous/stressful work in front of computers, coupled with lack of any physical exercise, we have seen, were leading to the emergence of a group of professionals afflicted by a number of ailments even at a very young age. Some firms were slowly becoming aware of the hazards to their workforce and indirectly to their own profitability and were found organizing awareness campaigns and corrective measure whereas in many other firms no such efforts were reported. But by and large the youthfulness of majority of professionals made them ignore even such infrequent attempts. All this points to an urgent need to probe in detail into the health effects of the industry so as to take appropriate corrective measures.

9.4.3.3 Social acceptance of atypical working hours needs to be accompanied by corresponding wider acceptance of ladies travelling alone at night so as to minimize the difficulties in transport faced by female professionals at present. There is also
the need to introduce better transport facilities in Infopark so as to reduce hardships faced by ladies working in the numerous smaller firms in the park.

9.4.3.4 Some professionals also opined that, while absence of social infrastructure and avenues for relaxation was certainly a deterrent in attracting IT professionals from other states to Kerala as has been pointed out by certain studies\textsuperscript{10}, what was more of an obstacle was the absence of a cosmopolitan food culture. They opined that many of the young professionals who work in tier two cities come from similar cities in other states and as such the existence of social infrastructure like in Bangalore/ Madras etc was of less relevance for them compared to steady availability of the type of food they were accustomed to. The Kerala style of cooking based on coconut oil was not something they were familiar with and created adjustment difficulties. While some food outlets have been set up in both Technopark and Infopark to address these issues, these remain inadequate and have not provided a satisfactory solution. Thus what is needed is the development of a more broad based and multi ethnic food culture both within and outside technology park premises.

9.4.3.5 While Kerala with its high literacy levels certainly has an adequate quantitative supply pool of labor necessary for the growth of IT industry, the quality of this labour is stated to be far from satisfactory. This has been echoed by recruiters of many firms who state that employable manpower in the state is limited due to lack of necessary soft skills. This was observed as a hurdle in career progression of software professionals from the state and also pointed out as a major obstacle for starting voice based BPO activities here. Thus there is an urgent need to integrate such training programs in professional as well as general arts and science colleges so that our educated youth can more effectively make use of the opportunities opened up by the IT sector. While some preliminary initiatives for the same have been taken by some colleges in metro cities (for instance ITES major

Sutherland has a tie up with certain graduate colleges in Kochi wherein they provide, for a fee, training in soft skills to interested students), the fact remains that such initiatives are limited to city colleges which precludes the vast number of students in other areas. Further the charging of fees for such training also exclude the poor and the marginal from benefiting from such programs even within city premises. Thus there is a need for more co-ordinated effort by the government, various universities and IT industry sources whereby such programs can be made available on a much larger scale and at lower cost so as to make it more inclusive.

9.4.3.6 Our study revealed that there is no integrated, reliable secondary data available on labour / employment in IT industry in the state at present. This hampers any serious attempts at quantitative assessment of impact of the industry on employment generation within the state. Rather than setting up yet another agency for the same, the government may entrust this task to one of the existing institutions which may periodically collect and collaborate information from the multitude of sources at present such as Technopark, Infopark, STPI- Trivandrum, SCEZ- Kochi etc: Such a continuous assessment becomes all the more relevant when we consider the importance assigned to IT Industry for changing the economic landscape of the state.

9.4.3.7 Established attitudes in the industry which views habits such as working late or unpredictable hours as organizational norms render software work more a single person’s game and reflect more of a masculine culture. Premium placed on presenteeism and working overtime, adoption of a disparaging view of people who leave punctually, underestimation of early morning arrival, common practice of scheduling meetings at late hours etc. are but some of the generally prevalent standards that women professionals with family commitments find difficulty in adhering to. Such norms, we have seen, place female professionals with caring responsibilities at a disadvantage as compared to their male counterparts. A related issue that comes to mind in this context is the impact of such constraints on their employment in the wake of recent downturn in the industry. Will such constraints transform such female professionals into the Industrial Reserve Army of the IT industry? This is an issue that may significantly affect the self worth, dignity and
self sufficiency of women and needs to be examined in greater detail. It may also bring about a reversal of the recent inroads that women in the state have made in the technical education scenario. The relatively nascent stage of the industry and still later entry by women in large numbers have also carved out a software workforce in which majority of professionals are young and unmarried which renders the number affected by such issues a minority at present whose woes remain largely ignored. Thus there is an urgent need for vociferous publicity which will project such issues related to this minority group into the limelight, lead to greater understanding and subsequent metamorphosis of industry attitudes in their favor and bring about a more gender sensitive work culture.

9.4.3.8 Finally we also highlight the fact that continuous mapping of the gender equality situation is needed to provide a solid basis of policy formulation.

9.5 CONCLUDING REMARKS

In short we conclude that IT employment is ideally suited for the people of Kerala who are renowned for their penchant for high status white collar jobs. Existing evidence points to a recent take off in IT industry in the state. However the industry reveals under representation of women in work force compared to their presence in related educational achievements and a clear reproduction of traditional patterns of vertical sex segregation. Female professionals were also noted to be facing a number of challenges in their pursuit of such non traditional new knowledge economy careers. In this context the recommendations made by us may be of much help to firms /policy makers of the state in addressing these issues and can serve to enhance women’s achieved functionings by enabling a better combination of the often competing capabilities of non market care and paid work.