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Industry treats women researchers as valued workers

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The private sector is major contributor to the growth of bioscience in the country. This sector sponsors most of the biotech research (industrial research) and therefore a large number of women biotechnologists are also hired by the private biotech companies.

This situation has therefore resulted in the present sociological study offering interesting research results. Unlike women scientists who have specialized in other science subjects and who happen to work and carry out research work in government- scientific institutions, women biotechnologists working in the private sector biotech companies in Bangalore city come out as a distinctively privileged category.

A great number of women scientists are joining the biotech sector compared to other natural sciences. The fact that women join biological sciences in greater numbers than physical sciences is a well documented fact the world over. However this sector is also producing a large number of women science entrepreneurs who are achieving phenomenal success in their endeavors and putting this field and Bangalore on the world map.

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School education location: Almost 95 percent of the women have taken graduate degrees in biotechnology from urban colleges. About 4.9 percent are from the rural areas. As colleges based in rural areas mostly do not offer biotech courses these women major in chemistry or biology. It is expensive to set up biotech laboratories in colleges especially in rural areas. So women usually major in chemistry at the undergraduate level and come to the cities and take biotechnology as masters. At work they then start as Biochemists. According to The Karnataka Examination Authority (2011) out of the total engineering seats of 110,000 a total of 1040 seats were allocated to Biotechnology. It was seen that almost 60 percent of the seats were filled by girl students. A total of 19792 seats that were allocated in Computer Science only 28 percent were taken by interested female candidates.

The Rural-Urban Divide: Most of these women scientists in Biotechology hail from well-educated backgrounds. They are usually the third generation in their family to be educated. They are highly qualified and faced no objections from anyone if they needed to take up higher studies. Data collected shows that majority
of the parents favored the education of these women as girl children.Socio economic background of family members.

Graduation location: The women scientists working in the biotechnology sector are coming with an urban educational profile. 84 percent hail from a school based in urbanized locale as against of the sample size coming from rural schools. The data reveals that 5.7 percent respondents studied in rural schools. Urbanites have easier accessibility to the profession.

Father's profession: The privileged background of the respondents is indicated by the socio-economic profile of their father's profession. 19 percent have responded that their father is a businessman; 13 percent have fathers in the engineering profession with 8 percent as managers and 12 percent bureaucrats.

Family structure: A majority of the scientists surveyed hailed from Nuclear Family set-up constituting 75.5 percent of the total. However, nearly a quarter of 24.5 percent still live in an extended family system.

Positive attitude of Parent's to daughter's education: The transitional society in India places high premium on education. With attitudinal changes occurring due to socio-economic, cultural and technological changes, a whopping 98 percent had a positive attitude towards the education of the girl child. Only 2 percent of the parents were neutral to the idea of educational qualifications of their daughters and none indicated any negative attitude to the education of the girl child. Their aspiration was reflected in the motivation of the daughter.

Impact of Caste Affiliations: The socio-economic differentiation in India is extreme and has a direct influence on the choice of course taken by girl students. The upper castes being the most literate enjoy greater awareness of academic courses available. The lower castes and tribes are unable to avail similar opportunities. Though caste has been widely researched very little attention has been paid to caste among women scientists in organizations. An analysis of the caste composition of women in biotech sector throws useful light on the issue of upper caste privileges in education in modern India. The data collected shows that a good percentage of the participants in the present study hail from upper caste background. Therefore the affordability of academic courses related to biotechnology is within the reach of only certain categories of castes and social class.

Caste composition of women biotechnologists: In the predominantly Hindu representation, Brahmin or upper caste constitute 50 percent, with Nairs of Kerala, Lingayats of Karnataka, Mudaliar of Tamil Nadu and Reddys of Karnataka and Andhra Pradesh having a fair share of representation. These castes are again fairly strong in socio-economic, cultural and educational indicators. Another factor to be noted is that women from Scheduled Castes and Scheduled Tribes remain poorly represented in this emerging technology sector.

Gender biases: Women biotechnologists in the sector have not faced great gender biases at their workplaces. In comparison to the numerous instances of gender bias and lack of parity in treatment of women researchers that have been consistently brought out by various studies conducted on women scientists in government research institutions, equitable treatment seems to be the norm in the private domains of the biotech industry in the city of Bangalore.

Fear of Attrition: One of the old biases that still holds true even in this industry is the fear of attrition of newly married women. Most biotech companies still become cautious while hiring qualified women researchers of marriageable age. The organizations foresee an inevitable break of service/disturbance coming in the life of the researcher because of the following factors:
â€¢ Marriage may entail change of residence from one city to another
â€¢ Marriage and subsequent child bearing/rearing responsibilities on the young women.

Age distribution of women biotechnologists: The bulk of the women scientists interviewed, approximately 60 percent represent the youth as they are within the category 20-30 years of age. It is also indicative of the dynamism and potential of this industry. 34 percent are in the 30-40 years category, usually in the middle order of the organizational hierarchy. Only 4.9 percent are in the age group of 40-50 years, and 1 percent in the bracket of 50-60 years out of a sample size of 102. This is not to indicate that women in the biotechnology industry are experiencing the "glass ceiling" effect. In fact these low percentages in the upper echelons show that this industry is still young and most people in the senior cadre are only now entering middle age.

Any researcher is a valued worker for the organization. Considerable time and money is spent on imparting skills to them. A researcher then either becomes part of a team that is carrying out experimental projects or handles experiments individually. Thus when a women researcher decides to leave, not only is valuable time and money lost but also the skills imparted as well as the knowledge bank that these women researchers become are lost to the industry. Serious attempts to either retain their positions or reabsorb them back into the industry after their sabbatical are ideal for skill retention.

The biotech industry in Bangalore (especially the private sector) treats their women researchers as valued workers. In all the biotechnology companies where data was collected, it was observed that world class-facilities were provided in terms of physical infrastructure-high-security chrome glass buildings with ultra modern office dÃ©cor, manicured gardens and spacious recreation areas and canteens, ultra-modern restrooms, transport (to and from home to office), air-conditioned, modern workstations etc. Laboratories with world-class scientific equipment are in place for all experiments conducted by the workforce.

Work Delegation: Most women researchers are offered challenging projects that test their scientific and organizational/managerial skills. The biotech industry in Bangalore, does "contract research" for many Indian and foreign organizations. Many highly qualified women are therefore assigned prestigious projects and the opportunity to lead research teams.

Glass-ceiling: The biotech industry treats its women scientists very well. Most women surveyed denied the experience of the "glass-ceiling" effect. Focus on work and achievements of targets are given more priority as far as the private biotechnology companies are concerned. Parity in treatment was consistently reiterated by most respondents. As this industry is comparatively young , women are still climbing the organizational ladder.

Few have reached the top echelons of their companies because of factors like young age, work experience in terms of number of years of service etc. Gender prejudice was never a factor here. Cases of qualified/deserving women being superseded by men were not reported among the 102 women biotechnologists of who were interviewed for the present research.

Decisions regarding investing earnings: Decisions regarding spending, investing or saving earnings lay completely in the

hands of these women. Though consultations were invariably carried out with the spouses, parents or in-laws they do not feel that they need to be accountable beyond a certain point. Women Scientists especially in Biocon and Avesthagen were very categorical about this fact.

Independent decision to invest their earnings by these women has an affirmation of 64 percent. 35 percent consult their near and dear ones or do not earn enough to start investing.

While many isolated cases of gender-discrimination cannot be ruled out even in this sector these maybe treated as exceptions to the rule and not the norm. They are situational and specific to the work-environment of a particular biotech company.

Thus for most women biotechnologists the term "Development" has a different meaning that can be understood most within the urban context. They are already the beneficiaries of progress and development-be it social, economic or educational. These women are "empowered" in most facets of their daily lives. They are role models of how opportunities can bring out the best in women in other disciplines of teaching and research.