

## **What is Feminist Approach to Technology (FAT) and why do we need it?**

Our organisation FAT started in 2008 with the mission to promote a feminist approach to technology. We love our name and are often asked what is a feminist approach to technology, and why do we need it. This booklet explains the idea and objectives behind FAT and aims to bring our partners and local activists to a shared understanding of our work and the need for it. This is the first in a series of toolkits to inform our teams about the background of their struggle and the way forward. Available in both Hindi and English, these booklets are written in an easy to understand language explaining terms and concepts with anecdotes and evidence. This is our attempt to share our outlook with all stakeholders and requires no understanding or skills in science and technology. We aim to reach out to those who are often most affected by the discourse on science and technology but left out of it.

### **1 What do we understand as feminism? Is it an anti-men agenda?**

Feminism stands for equality for all, irrespective of their gender, sex, mental and physical abilities, race, class, caste, religion, education and influence. (In simple terms, any other identity, beyond being a human). However, before we imagine a world where everyone has equal rights and opportunities, we must admit that some sections of our society have been deprived more than others of these rights

and resources and have been abused and exploited. So we need an equitable way of dividing resources while ensuring rights for everyone to create an ideal society with equality for all.

Equity differs from equality; equality is about treating everyone exactly the same, while equity recognises that generations of inequality has meant that treating everyone the same may leave them standing at the same uneven position from which they began. For centuries, the most prevalent form of inequality across all cultures in the world has been based on the identity of being a woman or even just feminine. Feminism asserts that in any community, women are the most deprived and should be kept the focus of any development initiative to have an impact on the entire community. For instance, it is an accepted fact that Dalits in India have lagged behind as India develops and progresses into the 21st century. In many parts of the country, even their basic human rights are violated. Dalit women have experienced even worse violations due to their identity as women on top of being Dalits. Violent rapes and murders of Dalit women to punish her family for disobeying caste norms happen even today and are often under-reported in the Indian media.

Now, if we look at the oppression a poor, Dalit, homosexual woman could face, besides the direct discrimination faced as a Dalit, she faces the challenges of being poor, homosexual and a woman. Each layer added to her identity multiplies the roadblocks that come her way. This does not assume that being a woman always means being the most disadvantaged in any situation. A Dalit, disabled, poor man may find it hard to feed himself compared to the educated daughter of his Brahmin landlord. This Brahmin girl could face domestic violence and a forced marriage which the

Dalit man will probably not experience. If the Dalit identifies as a transgender, the abuse he could face will multiply manifold.

We have to account for each stumbling block that a person faces through their multiple identities and create opportunities which are not necessarily equal but in the long run, bring everyone towards equality. This may sometimes mean that some men may need more support than women. Feminism is an ideology that offers to look beyond the surface, helps identify the root of inequalities and create opportunities for most marginalised, whoever it is in that community.

## **2 What do we understand as technology? How is science different from technology?**

Technology, defined by the Oxford Dictionary as "the application of scientific knowledge for practical purposes," means more than just the visible high-tech tools, mobile phones, computers and cameras that surround us.

The word technology is derived from the greek words *techne*, meaning "art, skill, cunning of hand", and *logia*, meaning "the study of something, or a branch of knowledge of a discipline," in a way technology is the 'study of a skill.'

So, while science is a systematic study of the world around us, using observation and experiments, the practical application of this scientific knowledge is technology.

Technology could mean the simplest device, a complex machine or software that we create or adapt for our use.

Technology predates science; even before humans could understand why, we combined chemicals and materials to make and shape what we found in nature. From the potter's

wheel and the weavers loom to using fire to smelt iron, copper and other metals, we applied scientific knowledge in a practical way from ancient times.

Today, we use hundreds of little items of technology through our day in everything that we do; technology feeds us, improves the quality of our lives, keeps us comfortable, cures our sickness and nurtures us to health. Whether we use aspirin, buttons, combs, doors, earphones, a fork or a zip, our basic needs and comforts are a gift of technology. For farmers, it is not just the mobile phone they could use to know the market price for their produce, but the seeds and fertilisers, the knowledge, tools and techniques needed to farm, harvest and store the produce, almost everything they do is a gift of technology.

### **3 What is a feminist approach to technology? Why do we need to look at technology from a feminist perspective?**

If everything around us is technology, then it must have a huge impact on how society is shaped. In fact, all human progress from the stone age to the present happened when we learnt to create and use tools and invent others as they were needed.

Technology plays such a vital role in our lives that as social activists who fight against injustice, we have to understand how technology can enforce the social structures we fight against and how we could use the same tools to further our cause. All sections of society, especially those who are the most left out, must have a role in producing and taking decisions regarding the creation of technology to ensure that

widely used technologies do not have a negative impact on human lives. A recent example is the aadhaar card, the Indian Government has just made it mandatory for all citizens to register for an aadhaar. The Attorney General of India, said in Supreme Court, that 'the concept of absolute right over one's body was a myth.' By giving away control of their biometric data to the government, do citizens have control of their bodies. It might lead to better managed and more accountable rights and services to citizens, but is biometric information the only secure way to give that?

Traditionally, women have been disregarded as users, participants in the creation and decision-making around technology. A feminist approach to technology is one where women of various backgrounds are not just handed-down users, but active ones, who shape every aspect of the design, use and impact of technology and help even more women to participate in its future.

Three main arguments for the need to look at technology from a feminist perspective are:

(I) Technology is both a source and an instrument of power. It can be used to communicate and create change, to amplify some voices and also to control others. The way the power of technology is used affects the future of the world. For true gender equality in the world, we need to ensure that women have an equal share of this power. It is not just about gender but diversity and giving a voice to the marginalised using the most powerful tools that push forward change in the world. Simply increasing the number of women or people from other deprived communities within technology fields will not bring about this change. Positions

of power in technology especially those which impact the future of millions, should be equally accessible to women. Who will decide what the next generation of medicines, phones, cars, aircraft and other new (as yet uninvented) technology will be and who decides what ideas to fund, women must have access to that power. For an example, the neglected diseases' – a group of over 30 diseases including HIV/AIDS, malaria, diarrhoea, leprosy, trachoma and rheumatic fever, that affect more people in the Global South, got just 1 percent of the global health research and development funding. (Lancet Journal, 2013) It is obvious that only when we use our best resources will we solve a complex problem.

(II) From an early age, most women are discouraged from studying and then working in science and technology. Many career options are just ruled out, so women can never hope for an equal pay and quality of work. For an educated woman, the number of employment opportunities is reduced and entry to positions of power is restricted, but for the illiterate woman, it means that the only options to earn a living are either high-risk manual work in industries or simple home-based work, pushing her further into poverty. At a construction site, the menial, physically exhausting work of carrying bricks and sand is equally done by men and women, the skilled jobs of masons, electricians, plumbers, engineers and machinery operators almost always go to men. Ever wonder why it is so? For women, while the difficulty and amount of work does not reduce, they have low chances of landing high-paying jobs. Even for the modern, educated, career-driven women access to many fields like mining, mechanical and civil engineering and even surgical medicine is limited by the idea these

career choices are masculine and not suitable for women. Free access to careers in science and technology is essential for women.

(III) Technology is a vast area of knowledge and practical tools range from do-it-yourself inventions and ones based on traditional knowledge to high-end, market-driven, industry-produced tools. Most of us have narrowed our definition of technology to only what is advertised and sold to us.

In the 1970s, infant formula makers started campaigns in developing countries, using advertising, samples and free gifts from sales girls dressed in nurses uniforms to persuade mothers to give up breastfeeding. Infant food formula was advertised and sold as a complete food with nutrients that mothers' milk could never match. However, UNICEF estimated that a formula-fed child living in disease-ridden and unhygienic conditions was up to 25 times more likely to die of diarrhoea and four times more likely to die of pneumonia than a breastfed child. After an estimated 1,200,000 deaths directly related to formula feeding in third world countries, organised protests including the Nestlé boycott of 1977, called for an end to unethical marketing. As a society, much of our time-tested, indigenous wisdom is discredited creating a hierarchy of knowledge and technology that favours a profit-driven market. This is a huge disadvantage to us, we don't need to use all the technology that is sold to us and we might not have access to what is appropriate for our need. Do we demand what we need or accept what is sold to us without question? In the 1990s, the United States allowed patents on turmeric, neem and basmati and the Indian government had to fight lengthy legal battles before these patents were cancelled. The

fragrant basmati rice, turmeric with its wound healing properties and neem with its antifungal, insect repelling character are traditionally known, indigenous to India and cannot be exclusive to a company. Our traditional knowledge needs to be respected and protected. A feminist approach to technology asks us to open our eyes and value the knowledge and technology around us, to not just blindly use what we get, but to understand the science behind it and its impact on us before using it.

#### **4 How does technology impact women differently?**

Technology affects people every day, making daily life easier and opening up ways to earn a living when a person learns to use or create technology. Whether using a sewing machine, assembling a smartphone or being confident enough to start a small business or cottage industry, technology could give women control of their lives and support their families. Compared to what men could choose, the work and career options available to women today are limited, mainly due to the prevalent gender norms and stereotypes that stop girls from learning and getting comfortable with technology from a very young age. Anything seen as technical or involving machinery is considered to be masculine work, requiring analytical and physical skills that women are assumed to lack. To fit the role of a good homemaker, girls are expected to grow up with feminine qualities, this is a conscious and sub-conscious bias that creates barriers for a girl within her family, in educational institutes, at the workplace and also in government policies and schemes. In India, female students made up more than half of the class (57%) in (Science,



Technology, Engineering & Medicine) STEM subjects and the number has been rising. The share of women in the workforce, however, has fallen from 37 percent in 2004 to 25 percent in 2011. Urban women have it worse, just 15 percent of them could work, compared to 30 percent of rural women.

Most women who work in industry, get low paying work that requires constant attention to detail, often in hazardous conditions. Women workers in the agriculture sector lack land rights and recognition as farmers and excluded from access to farming technology or loans. Overall, in India women earn about 56 percent less money than men for the same kind and amount of work. Home-based women workers make up about 18 percent of India's workforce. A survey of home-based women workers in Delhi, 2008 found that working a minimum of 9 hours and up to 17 hours a day, 90 percent of the women earned less than Rs 1000 a month. Wages had remained the same or decreased for eight out of ten of them. Since technology is a constantly evolving field adding new skills for women means getting more opportunities and jobs including ones that pay higher. For the simple reason that they can reproduce, women's bodies have always been more controlled than men.

In 2010, news trickled in from across India that thousands of women in Andhra Pradesh, Karnataka, Bihar, Chattisgarh and Rajasthan had their uterus removed, on the advice of doctors. Most of the hysterectomy procedures were carried out in unsafe hospitals by untrained staff, in a risky procedure that is carried out as a last resort, often leading to infections and death. The scam continued in 2017 in Karnataka, 4 hospitals whose licences were cancelled in 2015, remained open while thousands of women fell victim to unscrupulous doctors, abusing government schemes.

Would awareness of their bodies have helped?

As women learn about technology and get online, they are mostly monitored and controlled by the men around them. Just by posting a picture of themselves, they could invite unwanted comments and attention or even lewd invitations. The anonymity of the internet can magnify the abuse by strangers. As mobile phones and the internet spread, the technology or access to it can be used to control women. Village councils in a few north Indian states have tried to ban mobile phones and even jeans for women. As the country moves towards a digital, connected India, women have to be aware of the risks of new abuse and crime using mobiles and the internet and how to deal with them. For instance, there have been multiple cases of multimedia messages (MMS) of young people made over mobile phones, which were abused and shared as pornographic clips. Even after criminal cases were filed, the messages are available and being shared. These incidents happened because the people being filmed were not aware of how the technology could be abused and that they would have no control over their personal, intimate pictures and video. These are just a few ways in which technology has an impact on the lives of women, as more information is available we become aware of other effects and how deep they could be.

**5 If women are not interested in technology should we worry about their participation in STEM (Science Technology Engineering and Medicine) fields?**

Girls have consistently outperformed boys at most school level exams, they form 46 percent of the class size at the undergraduate level but constantly drop out at each level until they start a career and even after. In STEM fields, women have a higher enrollment across India except in the Engineering courses, (including computer engineering) where men make up more than 70 percent of students. Some of the reasons women drop out from pursuing an education and career in STEM fields are -

- lack of opportunity due to economic and social reasons
- a conscious and sub-conscious gender bias
- stereotypes about what feminine qualities are
- the absence of any role models
- balancing the burdens of a provider, upholder of Indian values with a desire to be successful in their career.

There is a lack of credible information and data that can give a detailed information of the opportunities available in STEM-specific fields, but many women scientists have spoken about the support they need and what they lacked. Women are half of humanity, their intellectual potential is something that we can not ignore. Scientific development, the process of discovery and innovation will get a huge boost from more diversity, gender is just one part of that diversity. It is not just important but essential to add to the pool of good new science and scientists. At the moment the focus is on a basic education when it is equally important to have a specific education and training with a focus on practical skills to be an entrepreneur or an employee.

## **6 What is the solution? (Why is it important that everyone care)**

We can not just work with the few women who have chosen science. After recognising and measuring the problem, we need to work towards solving that for multiple reasons, some economic and some social, a large majority of women have no access to even the most basic of technology, definitely no access to knowledge and careers in science. Without their participation, a lot of the innovation we want will be either delayed or will just never happen. We have to focus on the goal, which is to give more opportunities to marginalised girls and women to understand, use, create and shape the future of technology. By locking science inside ivory towers, we restrict the technology of tomorrow. A push towards a communal, collaborative practices built from the ground-up is needed to democratise science, create new knowledge and work towards an exciting future.

### **About Us**

Feminist Approach to Technology (FAT) is a not for profit that works to enhance the participation of women in science and technology by increasing their usage of technology, getting them involved as creators and most importantly, as decision makers on technology related issues.

FAT aims for a world where everyone can study technology and science from a young age, invent useful things, solve some of mankind's biggest challenges by using knowledge, sometimes from traditionally ignored sources. We work for a

world where people get to decide what technology companies create for them and choose what to use from the options they have.

## **SOURCES**

**1** Breast milk substitute

<http://archive.babymilkaction.org/pdfs/babykiller.pdf>

**2** [http://www.catalyst.org/knowledge/women-workforce-india#footnote32\\_3hdtl7g](http://www.catalyst.org/knowledge/women-workforce-india#footnote32_3hdtl7g)

**3** Workforce Participation

[http://www.mospi.gov.in/sites/default/files/reports\\_and\\_publication/statistical\\_publication/social\\_statistics/Chapter\\_4.pdf](http://www.mospi.gov.in/sites/default/files/reports_and_publication/statistical_publication/social_statistics/Chapter_4.pdf)

**4** Gender Wage Gap <http://reports.weforum.org/global-gender-gap-report-2014/economies/#economy=IND>

**5** <http://timesofindia.indiatimes.com/city/bengaluru/2200-kalaburagi-women-lose-uterus-to-doctors-greed/articleshow/57011601.cms>

**6** C Section rates <http://ispub.com/IJGO/17/2/2972>

**7** <https://theconversation.com/we-need-to-break-science-out-of-its-ivory-tower-heres-one-way-to-do-this-76354>