

# EFFECTS OF SCIENCE AND TECHNOLOGY ON RURAL SOCIETY

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**H**umans and technology go hand in hand. They are inseparable twins. Since the dawn of human inception, since Darwin's chimpanzees, both have been travelling together. From the cave dwelling *Homo-sapiens* (primitive man) of yesterdays to the present day sophisticated space dwelling *Robo-sapiens* (tech-supported humans), the technology always stood by them.

The other side of the truth is that many a times the same technology turned from boon to bane. Fire, which made the life easy and saved humans from the wild animals, engulfed their huts and burned many a cities. In this article we would discuss these varied effects of technology on rural society in India.

## Agriculture

The farmer feeds the society. He/she has grown grains for the mankind with his/her plough and bullocks and depended on the mercy of rain gods for centuries. But now he has embraced the tractor and cultivator instead of plough and bullocks. He has developed the irrigation system. This has increased production of foodgrains from 45 million tonnes in 1951-52 to 252 million tonnes by 2001-02. Infamous Bengal famine of 1940s had then become the part of tragic folksongs in India but not anymore.

The use of technology in agriculture has also resulted in the cultivation of genetic crops which can grow fast and they can be resistant to many pests and diseases. But GM cotton is also blamed for large number of farm suicides in Vidharbha region of Maharashtra thus wreaking many families.

## Culture

Prolonged habits of a community are its culture. Human beings develop some habits out of their needs or compulsions of their physical environment. In due course, they become rituals and customs of that particular society and soon take the shape of their culture. Irony is that the same society feels helpless after few hundred years to change those habits created by their ancestors. Whether out of inertia or fear, they are unable to change or add new habits which are no more of any relevance or

importance for the society. They become taboos and rigid laws.

But the science and technology has helped loosen this cultural rigidity. Printing press made books affordable and available to the villagers. This ushered in new ideas. Advent of print and electronic media further broadened the world view of the rural people. Due to newspapers, radio, television and internet, the old and diehard taboos are fading away and the society is once again becoming open and liberal. The effect of sorcery and witch craft has reduced. Earlier many diseases were seen as the impact of ghosts and ancestral anger and people, instead of going to a doctor, were often cheated by some lunatic *sadhus*, who brainwashed them and claimed to cure with some celestial powers.

Internet and television has also affected the dressing sense of the people in rural communities. Dress of a person is one of the most visible signs of his culture. Traditionally, every region of India has had its own unique dress depending on climatic and historical factors. But in today's internet connected world and online marketing, dressing sense all over India is overwhelmingly influenced by western fashion. Now jeans and T-shirts have become universal and traditional dresses are mainly kept for special occasions such as marriages or festivals.

Also, because of industrialization youth are migrating to cities, leaving behind the old parents lonely. Old age homes are on rise. Care and respect towards senior citizens have declined. Nuclear families have increased and joint family system is breaking down causing the emotional backlash resulting in suicides, depression, drug abuse etc.

## Cast

The main thing that caused oppression of *dalits* for millennia was – land. In villages, farming land has been the sole source of livelihood and production. But distribution of this land has been uneven with *dalits* almost left out. With no land, *dalit* communities had no option but to work as labourer for land owning communities. That is how their exploitation became



institutionalised and permanent. But the progress in science and technology brought industrialisation. With their millions of jobs, industries provided an alternative source of livelihood. This gave *dalits* much needed option to break free from the subjugation of land owning casts as the village landlord is no more their sole 'bread giver'. Now they can go and work in a factory. For factory owner, cast is immaterial. For him skill and productivity of the worker matters the most. Thus industries have provided much needed equalizer among the casts. This has reflected into improved socio-economic conditions of *dalit* communities. Thus technology has demolished the monopoly of the few.

Another aspect of castism in India was that *dalits* were forced into manual scavenging. Law was made against it but still the practice continued. Now technology has offered the solution by way of sanitary latrines and waste management technologies thus eliminating the need of manual scavenging.

### Women Empowerment

Woman is born equal but opposite to men. But history made woman slave and weak (*abla*). For centuries she lived in a state of oppression and negligence. She was kidnapped, raped, butchered during the wars and conflicts. Society gave her low status than her cousin man. Her birth was seen inauspicious in the family. She was killed in the womb or after birth silently. After marriage, she was just on the mercy of her husband and in-laws.

If we think about the origin of this inequality then we zero in around one factor – man's superior muscle power. It appears that due to his physical strength, primitive man was in a better position than woman in hunting wild animals and fighting the rival tribes. This some way or other gave rise to male supremacy in primitive society which was further accentuated by various social norms in later periods. But today technology has made man's superior physical strength redundant. Machines have empowered women to do any arduous work with ease. But entrenched social prejudices and biases remain. Again here, technology is helping break these stereotypes by bringing new ideas through TV, cinema, and social media. In a way we can say that women empowerment that we are witnessing today would not have been possible in the absence of certain technological breakthroughs.

Today, inter caste marriage and love marriages are on rise constructing a very new cosmopolitan society. Practice of 'sati' is abolished and the medieval traditions such as veil and dowry are being challenged everyday on the media platforms.

### Transportation

Earlier connectivity was the biggest issue for villagers. Their mode of transportation were slow bullock carts, mules or boats. *Kuchcha* roads would become unusable in rainy season. Technology has improved this. Now villages are well connected by roads and rail lines. It has provided mobility for people and goods and thus has spurred economic activity there. The tiresome journeys of miles on foot or by bullock-carts to meet their relatives and procuring and selling their crops in the towns have become the things of past. Now cycles, tractors, bikes are the norm of the day.

But this fast transport has impacted rural social life in other ways too. Earlier a guest would come and stay for days. There were some particular occasions when some particular guest would arrive e.g. a son-in-law will visit his in-laws in rainy month of *saavan* on *Rakshabandhan*. There, he would stay for some days and interact with villagers and other visiting son-in-laws. Thus his social contacts would be established far and wide. These interactions were a great way of socialising in earlier times. But in today's fast world, a son-in-law will hardly go to his wife's place on *Rakshabandhan*, and there too, he would hardly stay for a day or two. Thus old social processes of rural society are giving way to tech driven socialising processes which are significantly different from old ones and often lack a personal touch.

### Communication

The greatest visible impact of technology on villages, in recent times, has been on the communication system. Electronic media like radio, television, internet and social media have improved the information flow to rural society. These media can be used to persuade, entertain and inform the society. Cinema and TV serials have inspired the women for equal participation in the male dominant activities like sports, literature, driving etc. Earlier, every village in India had its own unique identity. Its residents identified themselves with their village. Reputation or disreputation of the prospective

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groom's village used to be an important factor in the decision making of a girl's father. But, communication and transportation technology is rapidly fading the unique and distinct identity of Indian villages. Now these villages appear more of a homogenous entity with much similarity.

At individual level, communication has empowered the common villager by being his/her voice but it has also taken toll on his peaceful and leisure life with the inflow of mobiles and internet. Social media has helped village communities connect with outer world. This has benefitted them in many ways but socially it is throwing up many challenges. The technology, that was designed to bridge distances and facilitate communication, is ironically creating distances. In villages, the youth are turning into prisoners of Facebook wall and Whatsapp chats. They have hardly any time for their actual friends and families face to face, but are crazy for their perhaps un-existing virtual friends. Four members of a family may be sitting in one room but all may be busy with their own mobiles not bothering about each other. Empathy and sympathy are replaced by selfies and Facebook likes. Instead of helping an accident victim, recording video in mobile and uploading instantly, has become more important.

### Education

Science and technology has improved education and learning process. Visual education, by way of using computers and projectors, has proved to be a better method of teaching and learning. So government is promoting the use of ICT (Information & Communication Technology) tools in education. Online courses have opened boundaries for so many in the rural areas.

Through technology, Indian education is spreading far and wide but at the same time, we can see a moral degradation in our education system. The much revered **Guru-Shishya** (teacher- pupil) tradition has been replaced by **client-tutor** trend. Though, more than technology, it has increased commercialisation of education that is responsible for this state of affairs. But technology has been an enabler in this. Second problem created by technology is information overload. Today's children know much more than what their parents knew at that age. This causes issues in upbringing and understanding between different generations.

### Health

Greatest misery of people in old times used to be untimely deaths of family members due to various reasons. With the advancement of medical science most of the fatal diseases have been either cured or contained. Medical facilities in rural areas have improved significantly, though they still lack far behind compared to urban areas. Further technological innovations like telemedicine would significantly bridge this gap in near future. This has overall positive impact on the health of rural people, increasing their life expectancy.

Thus, the technology has reduced the tragedies and lessened the pain. But it has had its side effects on the health as well. Over dependency on the machines and vehicles has turned the strong and stout villagers into the easy living fellows. They are no more known for their figures and physique. While the grandmothers used to get up early in the morning and did the entire household chores, today the females sleep till late and depend on technology for everything- be it churning of milk or fetching the water. Hence, Life style diseases like hypertension, depression, obesity, diabetes are no more limited to urban centers but affecting rural masses on a large scale.

### Environment

Traditional Indian life is closely related to nature. One reason is that rural economy is still predominantly dependent on agriculture which in turn depends on monsoon and good weather. That is why Indian festivals, songs, rituals are associated with nature in some way or other.

But with the advent of new technologies to clean the forests, dam the rivers, hunt the animals...., a commercial and consumerist approach towards nature has been gaining ground. This has prompt un mindful exploitation of the natural resources causing pollution, environmental degradation and ever increasing man-animal conflicts.

With this analysis, it can be concluded that science and technology has made an impact on human beings. It has been the best friend of human-being through the history when used wisely, but turned the worst foe whenever misused.

*(Authors write on social and environmental issues)*