



Socioeconomic advancement through the implementation of scientific innovations: A case study of backward regions in Jammu and Kashmir

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Abstract

In the wake of globalization, every individual from the diverse cultures around the world are busy in the attempts to further their progress in their lifestyles by applying every single tested and authorized outcome of the scientific research and modern technology in their lives. The people of the state of Jammu and Kashmir are no different to this world order. Considering the growing educational levels of the people of the state, they have been more welcoming to the science and its technological advancements, if at all they found it easing their standards of living in any manner. This applicability has no doubt transformed their lifestyles by replacing their early modes altogether. In this backdrop, the paper focusing on the extent of these transformations through the applicability on the lives of the residents of backward areas in Jammu and Kashmir, is an offshoot of a primary study, the data of which was collected from some selected backward villages from each tehsil of district Anantnag using interview schedule. The paper finds that the scientific innovations are a major boost for the transformation of the people from backward areas. The people from these areas in particular have seen the barriers between them and the rest of the people diminishing when they have begun to welcome and apply science, marring orthodox mentalities to sail on the ship of progress. The only constraint is the lower socio-economic profile which is gradually improving by their special status.

Keywords: Science and applicability, development, lifestyle, culture, society, transformation

Introduction

The growing globalized world has advanced in all fields and is growing with time. The science and its inventions particularly in the domains of technology have changed and is changing the life altogether, depending upon the extent of exposure one has with the things. This technology has conserved lot of physical energy which was applied by the people of different professions be it the heads of household, farmers, academicians, businessmen, administrators, etc. In the wake of these things the life has grown thick and fast in cities and is slowly and people strive to make their lives easy. Even the people from the lower rungs of a society are always in search to enable them so as to get equally benefitted in a similar fashion. The paper will discuss how the science and has been instrumental in the quick transformation of the lives of the people from the backward areas of Jammu and Kashmir.

Objectives

The main objectives of the paper as mentioned below

1. To outline the progress of science and technology with reference to the things which have directly transformed the societies.
2. To assess this transformation in the residents of backward areas in the state of J & K by linking the backward area status with the pace of transformation.

Methodology

The paper is based on primary source which was carried in district Anantnag of Jammu and Kashmir state. It has employed structured interview schedule as a tool of instigation. However, it has also used the relevant literature wherever necessary.

Society and Science

'Societies have changed over time, and consequently, so has science. For example, during the first half of the 20th century, when the world was enmeshed in war, governments made funds available for scientists to pursue research with wartime applications — and so science progressed in that direction, unlocking the mysteries of nuclear energy...Science is not static; it changes over time, reflecting shifts in the larger societies in which it is embedded (*Science and Society*, n.d.). 'The ways in which science and society are governed are quite different and the difference causes friction when scientific progress is of societal concern' (Koshland, 2012) [6].

However, 'the origins of sociological thinking as we know it today can be traced to the scientific revolution in the late seventeenth and mid-eighteenth centuries and to the Age of Enlightenment' (Kendall, 2011:11) [5]. In fact there is huge impact of the twin revolutions i.e. French and Industrial revolution on the emergence of sociology as a discipline. The industrial revolution is more like associated with creating the upheavals embedded with chaos and disorder in the society. As the modern engine manufactured goods started to replace the man-made tools, there was complete transformation. People in huge numbers were recruited in the factories and a huge influx was observed from rural to urban areas or to the places where the factories were established. It witnessed breaking down of familial setup as more and more people were preferring nuclear families. The mass-migration witnessed significant changes in the social structure of the society. The faster manufacturing rate increased production. Now there was growth of markets, abundance of affordable and inexpensive clothing, faster means of communication and transport. All these process reshaped the entire social fabric when man learnt to become a consumer from being a producer. 'The shattering of the traditional ways of life wrought by these changes resulted in

the attempts of the thinkers to develop a new understanding of social and natural worlds' (Giddens, 2009:10) [3]. As Harold Perkin observed, "The Industrial Revolution was no mere sequence of changes in industrial techniques and production, but a social revolution with social causes as well as profound social effects"(Preludes to *The Industrial Revolution*, n.d.).

The process continues till date and we see enormous impact of every single scientific invention. 'The first impact of the developments of science and technology and the application of ideas generated by the former and innovations made in the latter, was to encourage hopes for a new society—which would meet all needs and allow all people to be creative' (Rahman, 1981: 506) [9]. Being neutral to all the groups of people, science modernized people and developed their outlook to seek the solutions for their social and political life. Thus, with every single discovery and increase in the inventions these days, particularly in the areas of scientific technology, the entire social setup has to readjust its structure to accommodate the new invention. In our society today, for example, with the introduction of mobile phones, we can observe paramount changes in the gentle social fabric of the valley. Its introduction apart from affecting the business landline telephones industry, cameramen, photo-shops and other entertainment business avenues, it affected the social relations. People who had strong social relations when they used to visit each other now were limited through the mobile phones. The addiction has reached to such an extent that you may see two close childhood friends seated next to each other but busy with their mobile phones, and which apparently gives a look that they are strangers to one another. The mother today calls her kids seated in adjacent room for dinner and lunch via phone. It had effect on education on children and not to forget its ill-effects too which aided and added many social crimes. 'The technological innovation is in itself a form of change; bringing with it the other changes in social, economic and political life. An agricultural system as the basis for producing the necessary foodstuffs and other consumer goods leads to work relations different from those of a pastoral economy, and a community largely engaged in trade and commerce organizes itself differently again. When a society changes from being, for example, largely pastoral to being largely agricultural, new social relations will develop and thus the social institution called the 'family' may equally change appreciably' (Ackermann, 1981: 452) [1]. Moreover, there has been a revolution in computing and communications, and all indications are that technological progress and use of information technology will continue at a rapid pace (Lee, 2002:1) [7], which has its profound impact on the social fabric.

Thus, one can authoritatively state that the science and its inventions are mostly driven by the needs and demands of society. The society identifies the needs and requirements, on which the scientists work their heart out to address the solution and this process is going on for centuries with no side showing any signs of lethargy. Both science and society are following the dictum, '*ed athera tendons*' (tendency of flying higher and higher).

Science and Development of Kashmir

Development of any society or its section can be measured through its exposure to science and technology and the changes it brought in the respective societies. 'As science

and technology continue to advance, the ways in which people communicate, perpetuate, and develop their knowledge and attitudes toward individuals, as well as local, national, and international communities, will continue to undergo radical change' (USA, 1997: 5). These changes can be any nature. The society that welcomed science in their territories has improved in the course of development. Even these days when you compare any tribal groups with the modernized ones, you will find as if these two are the different species on the planet. It also depends on how the societies comply with the trajectories of development. The more embracing they appear the quick progress they record. Different scholars are of the opinion that many colonized states during the eighteenth and nineteenth century were developed as a mark of symbiotic relationship with the colonial powers. India for that matter, no doubt was looted all its wealth by the Britishers but in return India got progressively developed by virtue of being colonized. Some are of the opinion that India would have taken some 200 years to stand where it is today in the course of development. This can well be equated with some of the countries, that were never colonized and they are still treated as third world. Thus, the colonization proved to be a necessary evil for India.

India is a country that exhibits enormous diversity in regions, religion, races, languages and cultures, etc. Kashmir, its northernmost state, is also distinct from many other parts of the country in almost all the above attributes. The state was primarily treated a scenic place which was usually used by the Mughals and by the Britishers as their leisure place. Thus, it didn't witness the similar pace of development as the other areas of India particularly located on the coastal areas. Kashmir, a closed but equally embracing society gradually began to accept the science and its technology when it amazed the people. The transformations were evident which differed from region to region. Kashmir has a handsome population that lives in hills, closer to forests and a good number of tribals too. These people welcome the scientific advancements at a pace slower than the other areas. The lower literacy and the distance from the mainstream population accounts to their snail's pace in the course of development.

Area Reservations and Development

Residents of Backward Areas (RBA) is a category in the state of Jammu and Kashmir akin to the category of Other Backward Classes i.e. OBC in other states of India. This RBA and the OBC category are by nature similar but there are few differences i.e. RBAs include areas which are identified by some criteria and are accorded reserved status whereas OBCs include the groups of people with some uniqueness. Moreover, the OBCs are availing 27 percent reservation in jobs and educational institutions as against 20 percent availed by the RBAs in the state.

Like OBCs, RBAs too have been benefitting from the reservation ever since its inception. People from these selected areas have been successful in improving their educational and economic status at a greater pace than the unreserved areas. This improvement no doubt invites application of the modern means of scientific and electronic gadgets so as to make their life easy in those hard terrains and difficult surroundings.

As per the observations, these reserved areas, particularly which are located far off from their respective tehsil

headquarters of the district, have been living a miserable life. They had issues with education, unemployment and basic life amenities like, transport, communication, healthcare facility, drinking water, electricity, etc. But now these days they have improved their life condition and are striving to live a dignified life laden with all modern means of technology.

Basic Life Amenities

Basic life amenities are indeed the epitome of scientific technology from which the humans are benefiting since ages. These things are very instrumental in deciding the

level of development of a society. However, these things can be better understood by discussing it through the following two sub-sections

a. General life amenities

This includes the condition of electricity, water supply, roads and communications, healthcare facility etc. From the sample of selected villages only 5 houses (i.e. 4.17%) only that aren't yet electrified, whereas the remaining 115 households are electrified. However, all these selected farthest RBA villages from each tehsil were electrified.

The following bar graph depicts the position of water supply in these RBA villages.

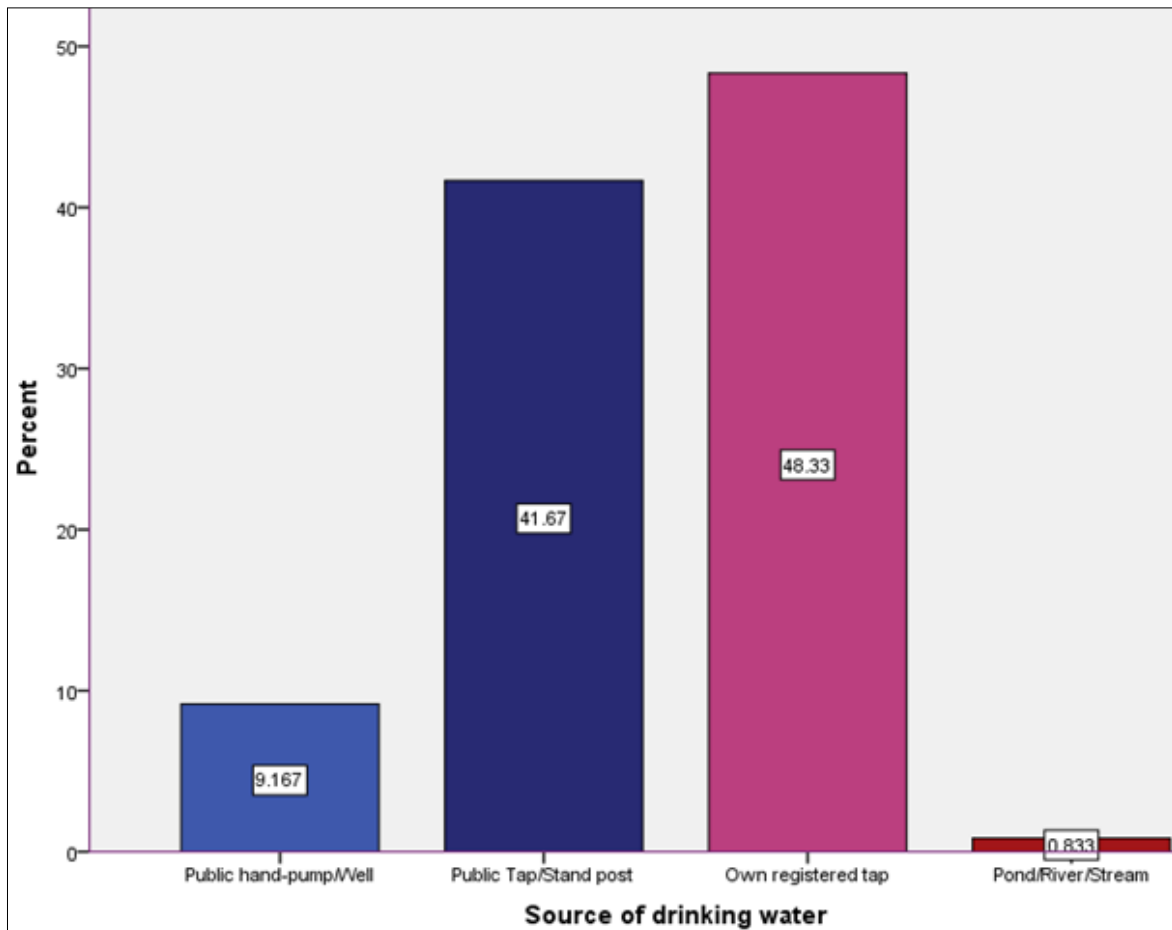


Fig 1: RBA Households and their source of drinking water

From the bar graph (Figure 1) it is clear that about half of the population of these RBA villages have their own registered water connections in their homes. Hence, they don't have to venture outside for fetching water which they have been doing for decades. As far as the source of fuel is concerned, the people used to collect the foreword from the local forests, the use of which creates pollution and is also time consuming. However, these days as per the data the people have been using LPG (Liquefied petroleum gas) to counter the problems they face by using firewood. These days as many as 69.16% households have the LPG connections in their homes. Thus, the availability of these things no doubt exhibits the overall development of the areas. With reservation, there is some significant increase in the levels of education and jobs of these areas which also acts as dormant force to press for the better life conditions. The doors of the government authorities have also been

repeatedly knocked for further improvements wherever necessary.

b. Personal/Household life amenities

The modern scientific inventions not only eased our paths and network outside our homes, but it also has lasting impact on improving and easing the lives inside our habitats as well. These days one can't imagine the life without the usage of different modern gadgets like television, refrigerator, washing machine, electric motors, fans, telephones, mobile phones, gas stoves etc. Among these modern gadgets, the people from the backward areas of the state have fair knowhow of all these things but they have availed it according to their respective locales in the socio-economic ladder. Figure 2 gives us the usage trend of things like fan, washing machine, refrigerator and television in RBA villages of Anantnag.

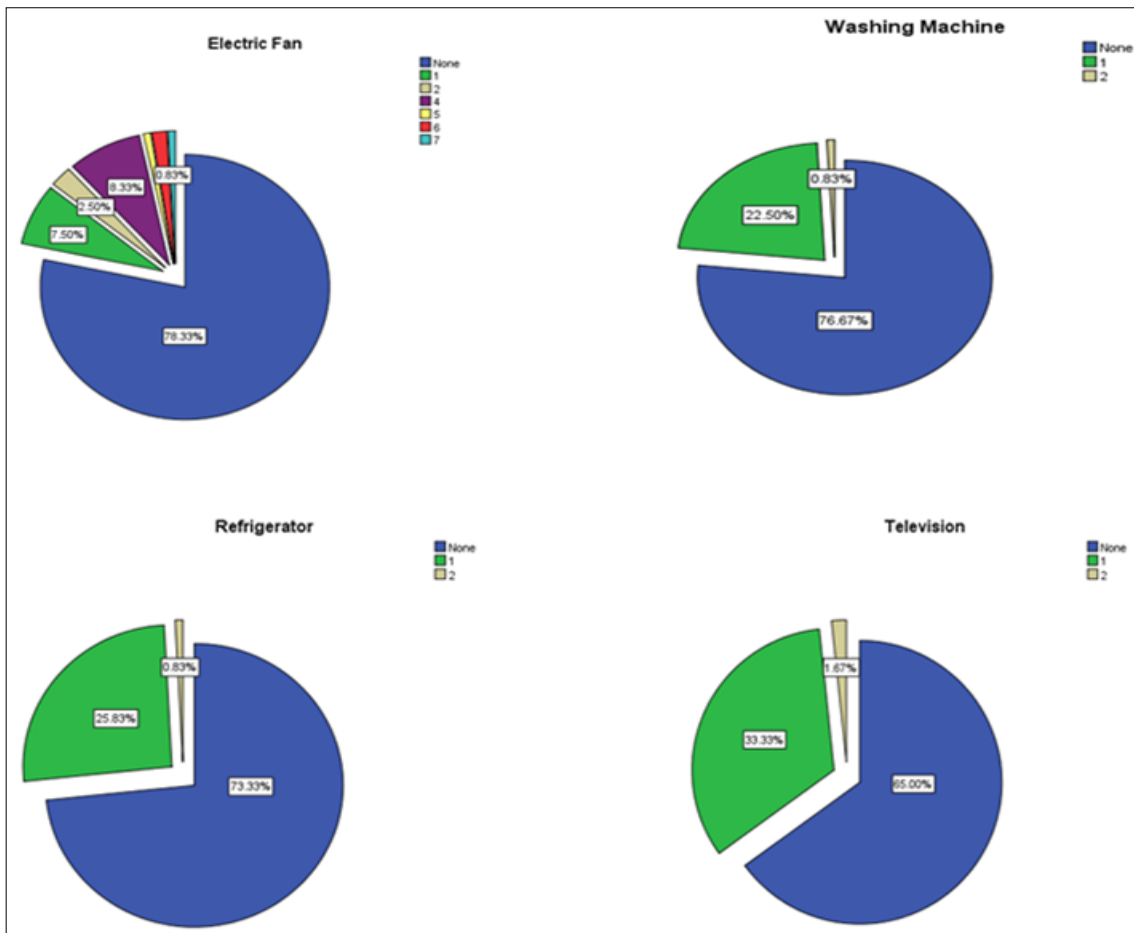


Fig 2: Usage of Modern Household gadgets in RBAs

From the above figure it is clear that the RBA people are showing an increasing trend as far as the usage of gadgets like electric fan, washing machine, refrigerator and television are concerned. One of the prime reasons of the little usage of things like fan and washing machine is the cold climatic conditions of these areas which are mostly located closer to the hills or forest areas. However, the television is slowly and gradually finding its increased customers from these areas. This will no doubt keep them well connected to the day to day happenings of the world

and also will boost their living lifestyles. As far as the usage of LPG connections is concerned, whopping 75% households have LPG connection registered against their name. This increasing use is attributed to the hassle-free cooking that the LPG provides than the firewood. Moreover, there are some rare households that even though have LPG stoves but still prefer using fire-wood citing reasons that they can't at the moment afford the high price of LPG cylinders. The extent of LPG usage by the RBAs is shown in Figure 3.

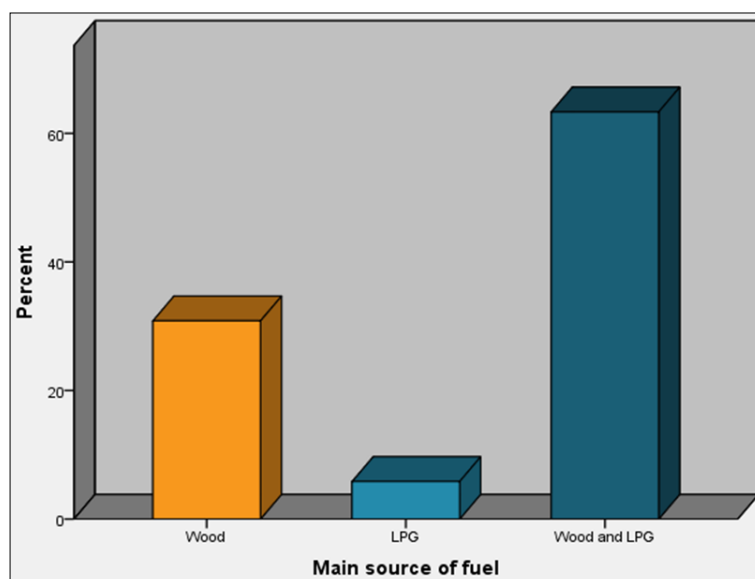


Fig 3: Extent of LPG Usage in RBAs

Using only fire-wood as a prime source of fuel is followed by many health hazards related to the respiratory system and even the overall hygiene of the members of the household. Thus, this way, the people are consciously or unconsciously improving their health standards as well. Another important outcome among the tools of modern technology is the invention of mobile phone. As these days it has revolutionized the world, when we see that in fact, the world has been amassed in the mobile phone itself wherein you are connected to each and every minute happening of the world. You can even now use it as TV, as radio, as camera, music player, video player, for internet surfing, reading, writing, and what not, apart from its basic use of being connected to anyone, any place and at any point of time. This multipurpose tool has seen alarming users in these areas. It is interesting to see that there are only 16.67% households which don't have the mobile phones when the data was collected. Who know by now they all might have got the gadget. Nonetheless, there are 20% houses that have 2 mobile sets in their houses and about 10% households have more than 2. Few of the families even had more than 5 mobile phones. Figure 4 shows the numbers of subscribers these backward areas have.

innovations and technology. The advancements in the areas of medicine, agriculture, telecommunication, physics, biology, robotics, space research etc, is changing the lives very fast. Every now and then there are breakthroughs in science and technology. We are today in a world where in, a person can control all his or her life activities just by passing commands and the machines will do it for them.

In fact, it is the change in the society that acts as a prompter for the science and technology to proceed in some set direction. 'Change is one of mankind's most mysterious creations. The factors that operate to cause it came into play when man produced his first tool. With it he changed the world forever, and bound himself to the artifacts he would create in order, always, to make tomorrow better than today' (Burke, 1985:3).

Society highlights a lacunae or requirement and the science sets its foot to ease out the matter by introducing tools and techniques. For example, many break through of the in the medicine for example, the cure of some diseases like smallpox, cholera etc which was at times sweeping entire populations of an area is now-a-days not being heard of. Similarly, man progressed from invention of wheels to dog-carts, to bullock carts, to cars, to buses, to trains and to airplanes. It hasn't stopped yet; the even faster means are being researched and experimented. Hence, the connection between science and society is ages old which go together hand in glove, working for each other day in and day out. If anyone of these exhibits fatigue or any sort of weakness, the entire setup is bound to get affected. For instance non-seriousness of the governmental agencies working on ground have been pointed out by Hussain (Hussain, 2016) [4] saying that, "there is an association between rural development programmes and non-seriousness of implementing agencies/fatalistic attitudes of beneficiaries. The longterm planning of rural development did not take place because the magnitude of stimulants was too small and not realistic in the study area". Apart from this a similar viewpoint has been put forth by Chowdhary where she has pointed out the identity politics between the two regions of the state hampers the overall development of the region. In her words, "this politics of region mainly emanates from the two largest urban areas of Jammu and Srinagar, at best, represent the interest of urban middle class. They, thus, do not leave much space for representing the interests of socially and educationally backward sections of the society (Chowdhary, 2010) [2].

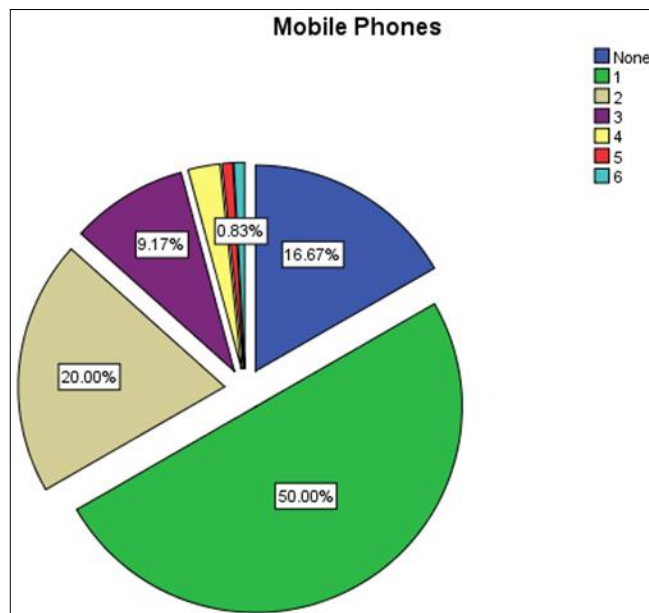


Fig 4: RBA subscribers to Mobile Phones

One may be right in deducing that all these people may not necessarily be using all the facilities a mobile phone provides. But one can't negate the fact that its effects are slowly getting into the blood of the people especially in the younger generations who always watch for an opportunity to get one such thing. It of course has many disadvantages too but the fear of those disadvantages seldom stops people from using these tools.

Thus, the life has become very easy if one can avail and use these things as per the requirements. Every passing time witnesses the improvement in the lives of the people. As people strive to use the gadgets available, science strives to look for their betterment by bettering their product and experiments for the maximum benefits of the humanity. The use of one gadget raises questions about its improvement and thus science keeps on searching for something better and more efficient. The inputs from the people who use these things give the scientists a direction to further their

Conclusion

The word 'development' can be at times used as a synonym for science. Science strives for the overall development of life and thus the scientist is always searching for bettering their betterments. The innovations have no doubt made the lives and lifestyles easier with every passing second. There are continuous breakthroughs in sciences be it physics, biology, medicine, space research, agriculture etc. Thus, people from every part of the globe are always looking for bettering their lives by adopting every single outcome that in any manner simplifies life and makes it more peaceful. Thus, it reaches to people at different times based on their respective positions on the socio-economic ladder. The people from the RBAs in J & K state have also started to use these outcomes. Their socio-economics has been furthered by the reservation which helps them improve their education and seek more and more respectable jobs at minimum

efforts than the unreserved lots of the state. Hence, the connection is well proven by the extent of the usage of the science, tools and technologies and their present life conditions which is improving at a faster rate than the people in their surroundings. Thus the reservation boosts their life condition amidst usage of modern household and other products of science and technology until and unless the bottlenecks are kept away from the paths of development.

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