Role of ICT in tribal upliftment and sustainable development

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Abstract

The development parameter of a society may be a measure of how efficiently the society is harnessing the schemes, the programs, initiated by that specific government but when such benefits are harnessed keeping in mind sustainable development it not only leads to societal development but also towards holistic and national developments.

Tribal in India are deprived of different opportunities due to different factors and one of the important factors is the unavailability of proper infrastructure thus creating a hindrance for the welfare schemes and programs to be reached in their footsteps. It's widely acknowledged that ICT has the potential to play a vital role in tribal upliftment along with sustainable development. Several projects have tried to adopt these technologies to enhance the outreach, enhance the coverage base by reducing the processing cost and minimizing the normal cycles of output results thus gearing up to achieve. Sustainable development goal number 9, sustainable development goal number 12. And far more.

It is often used to strengthen and develop the information system of development plans along with cost-cutting and other efficient methods exclusively for tribes and thereby improving the effective monitoring of implementation and execution. E-card, e-certificate, e-employment, e- health, e-education, etc. Are the pillars of e-governance in India. Digital technologies have divided the planet digitally i. E. Information rich and knowledge poor. And these digital divides can only be fulfilled when the event plans are accomplished holistically, keeping in mind of sustainable development of all the communities.

This paper discusses the challenges faced by the tribes within the village patkani in ghazipur district. To access the ICT for his or her needs and development. Patkani is the tribal village located in reotipur block of ghazipur district in the state, of Uttar Pradesh. Further, this paper tries to explore the character of the use of digital services., harnessing the digital programs., for or her usage. As this can enable us to understand if there is a real digital divide or digital inclusion of the tribes along with sustainable development using surveys., semi-structured interviews., quantitative and qualitative. Method, schedule. Etc. to know the use of ICT among tribal people.

Keywords: sustainable development, ICT for development, e-divide, infrastructure, tribal

Introduction

In the present context, any development in any area is often visualized in a country by understanding how the country is using the Information Communication Technology (ICT) to its fullest utilization. Nowadays, Information Communication Technology plays a serious role not only in individual development in developing their socioeconomic status but also helps in the development of tribals people living in remote areas and much more. Earlier we all had used traditional devices for communication like the telephone, computer, pager, etc. But now mobile brings the world in our hands and our footsteps. we will connect to the ICT society anywhere & anytime. In most, developing and underdeveloped countries peoples are unable to access knowledge technology due to a lack of proper infrastructure as well as the basic knowledge of executing it. ICT is employed as an effective tool for enhancing peoples' livelihood through increased access to information relevant to their economy, healthcare, transport, distance learning, etc Yet, among the tribal people in India, especially in patkaniya village of reotipur block ghazipur district (UP) hasn't enjoyed the fullest of the ICT initiatives at certain levels. Several reasons attribute to the non-implementation of the ICT in tribal areas. This paper discusses the challenges faced by the tribes and opportunities available within the village 'patkaniya ' and nearby villages, in ghazipur district, UP. Further, this paper tries to explore the character of the use of digital devices among tribal people in patkaniya and nearby villages and the reasons for their limited usage. This study would enable us to know if there is a real digital divide or digital inclusion of the tribes using a survey method and in-depth interviews.

Background of the Study

According to 2011, India has a 74.04% literacy rate, from that men constitute 82.14% and ladies 65.46%. As quoted by Suresh and Cheeran (2015), in India, Scheduled Tribes constitute 8.6 percent of the total population numbering 104.28 million (Census of India, 2011). Quite half of them are concentrated in Madhya Pradesh, Chhattisgarh, Maharashtra, Odisha, Jharkhand, and Gujarat. Among this, only a meager sleep in the ghazipur district of Uttar Pradesh amounting to 0.8% of the entire tribal population in India. There are many ICT projects initiated by the Central Government, State governments, and native bodies to uplift the basic livelihood of the tribal population in India. Many such projects are successful in other rural areas but not in tribal areas because of many reasons as analyzed (Kumar& Bansal, 2013). Lack of sufficient educational institutions in tribal areas, poverty, and lack of nutritional and healthcare programs are a number of the important problems causing the situation. Besides, low literacy, poor enrolment at schools, and high dropouts from schools also are significant among them. The tribal people in (patkaniya ghazipur) too face similar problems and though there are several ICT initiatives in India, it reaches the agricultural areas very fast

when compared to the tribal areas. This study is about the usage of data Communication Technology among the tribals in the tribal village patkaniya and nearby villages located in ghazipur district of UP. This paper focuses on the efficiency of ICT devices and the way effectively they are using the ICT. This paper focuses on both public and faculty students but mainly focuses on the tribal areas. Because nowadays most of the faculties in urban areas have changed to smart classrooms and even primary school students can access computers, mobile phones, and the internet.

Need and significance of the study

Information Communication Technology changes the individual's day-to-day lifestyle, culture, habits, and approaches towards the govt, and towards achieving knowledge. It makes the communication and knowledge access very simple and easier which is available at your doorstep. ICT devices like mobile phones and computers during covid pandemic became basic needs for individuals in urban and rural areas. We are using the web for many purposes in our day-to-day life, for instance, online banking, ticket reservation/booking, online EB/Telephone bill payment, etc, and far more. The Indian Government too has put plenty of effort to connect the individuals in the country from remote to urban places through the Digital India project. we will apply for a passport, adhaar card, and pan card, and register our details employed service online. Also, ICT plays a major role in education, there are a lot of online courses are available, and we can download the books, references, and study materials online. The rate of mobile and internet subscribers is increasing rapidly. Day-to-day development of ICT has become a necessary need for individual development. It makes education easier but people that live in rural areas are unable to access the ICT because of a lack of ICT skills, training, infrastructure, and lack of data about accessing digital devices. This causes a digital divide where information richer becomes more information richer and therefore the people who are not able to access ICT get information poorer in their transactions. This study tries to know the digital divide among the tribal people in India with special reference to patkaniya village in ghazipur district of UP.

The objective of the study

- The major objective of the study is to seek out the ICT usage among the tribal people in ghazipur district.
- The study is aimed to know the Information Technology devices used by them and to understand the usage of the internet and challenges to accessing the internet.
- The objective of the study is to work out the proper allocation and pooling of resources among tribal communities through ICT
- The objective of the study is to approach the gap between mainstream society and the tribal community and to fill the gap through ICT.

- The objective of the study is to analyze what proportion ICT has contributed to identifying the identity of tribal communities to be used as a human resource for the development of the nation.

Materials and Methods

For the actual study, the researcher surveyed the tribal village of patkaniya and nearby villages. The sector of study chosen for the purpose was patkaniya and nearby villages to see the impact of ICT-initiated IT programs on skill development among the tribals of this belt. For this study, quantitative and qualitative research method was employed. it had been decided to administer semi-structured interviews and schedule personally at the residence of the available respondents to gather the data. As an initial study, survey data were collected from 45 samples. This included 35 students and 10 public to know both the ICT usage at the school level and community level. Among the 45 samples, male respondents are 64% (N=29) and feminine respondents are 36% (N=16)

ICT for tribal development

Information and Communication Technology (ICTs) are extensively wont to bring transparency, Efficiency, delivering the knowledge at your doorstep and thereby improving governance. The technology is getting used to oversee and monitor the implementation of various socio-economic welfare and developmental plan in India. Though ICT is in use at various levels of e-governance in India yet it's worrisome that there is no reliable statistical tool and data that can be used to measure the actual impact of ICT on the livelihood of deprived, underprivileged, and marginalized sections of the society. ICT is employed as an effective tool for enhancing peoples' livelihood, people to people contact through increased access to information relevant to their economy, healthcare, transport, distance learning, etc. There are many ICT projects initiated by the Central Government, State governments, and native bodies to uplift the basic livelihood of the tribal population in India Many such projects have been successful in another rural areas too but not in tribal areas for many reasons as analyzed below. Their requirement is different, and to form the ICT usable for them, plenty of work, and framing structure is required to be done. It's summarized in Figure 1. Tribals follow a really strong system of oral cultures. The collective memory and importance placed on the elders to store information create a robust system for information flow. There's a need for an effective interface and connection between the traditional and emerging information systems while introducing ICT to fill the gap in tribal areas. This is often more so because tribals are accustomed to receiving information orally from a known and trusted source. It's a challenging task to bring this society to this new digital text-based information system and into the mainframe of Indian national identity. an efficient interface model is suggested that may be helpful for the sustainable introduction of this technology for the benefit of tribals
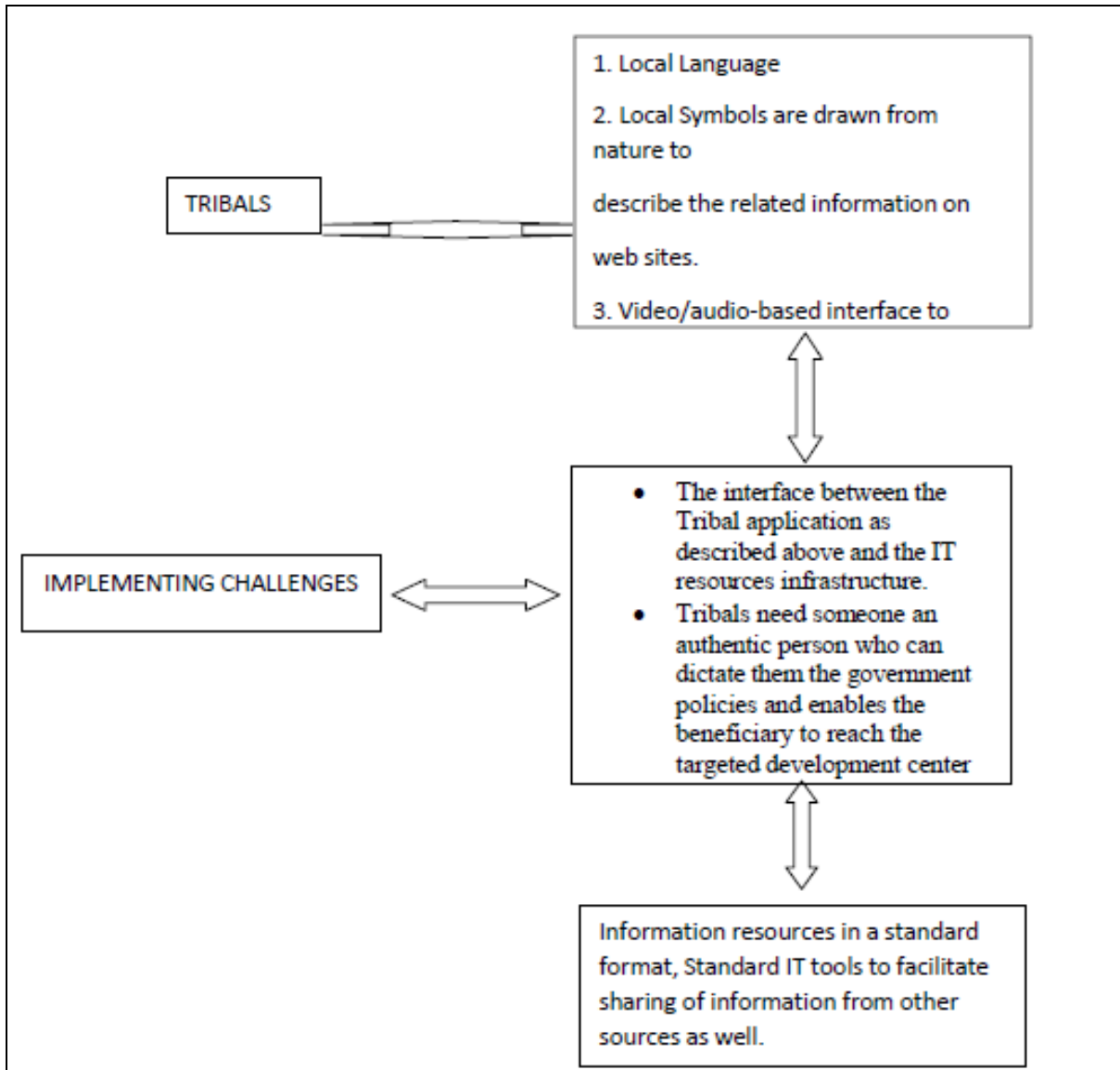
Fig 1: Schematic diagram of an ICT system for Tribals

ICT may be used for introducing basic education in tribal communities and improving their ways of living. Initially, a voice-based system needs to be introduced so that tribes may start using the system and get friendly to it. This voice-based interface must understand the tribal's tongue and the interface should be able to convert this audio into a relevant command to perform the desired task so that the system can be utilized for meaningful work.

Impacts of some ICT projects
Information and Communication Technologies (ICT) are used nowadays at almost every level of the decision-making process in the planning, implementation, and monitoring. Several welfare projects and developmental programs have been successfully implemented using ICT under a strictly specified timeline. Recently, E-Governance projects have offered quick access to citizen services and improved the processing of government-to-citizen transactions. a number of these have attracted even international attention and won prestigious awards. they need to become reference models for future e-governance project implementations. However, an equal number of such projects have faced acute problems of sustenance after their successful launch by the dynamic project champions. An analysis of those projects suggests that comprehensive effort is needed to ensure that citizens derive real benefits from such ICT projects. Many back-end government activities have to be re-engineered and desirable process change is required to be introduced to match the citizen expectations by taking advantage of the storage, processing, and distribution powers of emerging ICTs. Additionally, a picture-building exercise through the exhibition of transparency is essential to remove the distrust among the citizens on the functioning of service delivery mechanisms. Private participation will need to be facilitated to bring in the expertise, cost sharing, speed of implementation, and to supply a better value proposition to citizens. The governments also will have to address more serious management issues of identifying and preparing project champions, ensuring appropriate tenures, smooth transition, and internalization. We present here some studies to substantiate our observations. It's important to highlight a few ICT projects aimed at the benefit of tribals in India
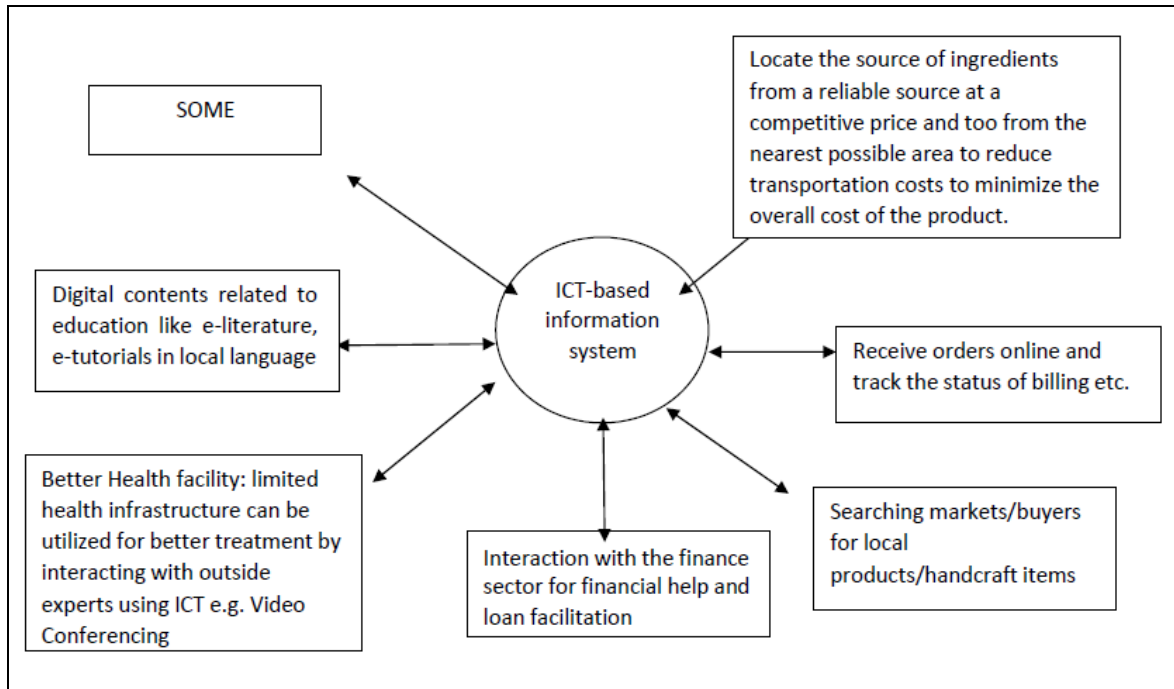
Fig 2

Some of the constraints to ICTs in tribal areas are surmountable others require a shift in both human and organizational communication and working patterns which is evolutionary. ICTs heavily depend upon physical infrastructure like electricity, telecommunications, etc. It shouldn't only be made available at a 0affordable cost but maintained also. ICTs are hooked into national policy and regulation for telecommunications licenses. They require initial capital investment in hardware and software. They are also dependent on the skills and capacity necessary to use, manage and maintain the technology effectively. The majority of the knowledge exchanged via ICTs, whether it's in text format or broadcast orally, takes place within the languages of developed countries only. Steps must be taken to deal with the needs of other languages and cultures through a long-term vision to make it accessible to all people especially tribals who do not know any language other than their native tongue. This may require significant investment and support for local content and software design. It's difficult to get private investment in tribal areas because the return on investment, which may be a major criterion for any private investment, isn't feasible for quite a reasonable period. The only source of funds that will be expected is from the government. The opposite source could be donors who can play a role in 'kick starting' information delivery systems where the private sector is not likely to venture in the short term. These limitations and other constraints are often minimized by introducing the following measures.

Capacity Building
The short-term objective of introducing ICTs in the tribal area should be to equip them with basic techniques, customized to suit them so that they can get benefitted from the ICTs. Thereby the method will help in developing manpower and infrastructure for the long- term objective of reducing the evolution period of tribals to compete with people on the mainland.

Citizen Services Portal
It should be designed to initially collect feedback, about the way tribals want this portal to be so that they can use it. A robot-based kiosk that learns from tribals, converts this audio/video-based learning into text and transmits it to the developer sitting at the server end. The developer thereafter designs an interface application for tribals.

Connectivity
Though it's not a constraint, technology-wise, the geographic area where tribals normally reside, poses problems due to deep forests, hilly areas, and unavailability of cables. The matter may be overcome through wireless (mobile both voice & data) communication, line of sight is usually a problem for this reason. Once these basic issues are redressed, connectivity to the surface world can easily be provided.

Local participation
It's essential to involve residents to understand the way the tribals can be educated and use ICTs and thereby develop an interface that is friendly to them in a sustainable manner. It can help in understanding their requirement and thereby finding an answer acceptable to them rather than imposing it on them. If it is implemented because it is, it'll not be accepted by them. A local person should be identified and he/she should be made coordinator for better coordination with the tribals Otherwise it'll be taken by them as an intrusion in their area/domain and they will not come forward.

Local language
Since tribals aren't accustomed to the languages used in ICT these days, it'll be a challenging task to bring ICT to the level of languages used and understood bytribals. Interfaces as suggested in Figure 3, is important for the introduction of ICTs in tribal areas.

Single Window Solution

It's a challenge to attract tribals to the realm of ICT and to remain attracted to it for some time. Once it's achieved, the next level of implementation of ICT projects is going to be easier, comparatively. However, once distracted, within the initial stage because of any reason, it's near impossible to bring them back. Therefore the task is not only challenging from technical points but also from sensitive points of view. If they get information or whatever little services they want to get from government agencies using ICTs, provision must be made to try to do the same immediately to convince them by action on the usability of ICT.

Value for Citizens

The state and central governments have several schemes to supply to the tribals. Any project financed by the central government (both planned and unplanned) ensures that a specific part (%) of the total fund must be spent in the North Eastern region/ tribal region because these people feel themselves to be detached from the mainland identity of Indian population and proper development hence to ensure that tribals are not left out from the process of development. However, monitoring and proper implementation remain an issue. ICT may help in bridging this gap.

Findings and interpretations of the study

The study found the subsequent usage patterns among the tribals in the area, Among the 45 respondents, 84% are using the TV for news updates. 2% are using a computer or laptop for getting news updates and 13% are found using mobile for news updates. The study shows that the usage of computers is extremely less. Usage of the internet is low in tribal homes and it was due to unawareness about internet connectivity and those people who knew about it lack the proper infrastructure to avail it. this is often stated in the study by Kumar and Bansal (2013) stating there is a difference between them and mainland people in respect of what materialistic comfort they don't have. These 'haves' is wrongly used as a measure of the cultural index. And once we use wrong measurement indices/parameters, and any inference supported this is bound to be misleading. Among the 45 respondents, 54.8% are using basic model mobile and the remaining 45.2% are using smartphones. Though the tribal people are found to use mobile phones lack of use of the internet clearly shows the digital divide existing among them. Among the 45 respondents, 42.2% are using mobile internet and the remaining 57.8% aren't using mobile internet, they just only keep the mobile phones to receive the call. The study shows that 48.9% understand how to use the internet and the remaining 51.1% do not understand how to use the internet. Among the 45 respondents 15% were using the internet for education and 11.1% were using the internet for accessing NEWS, 25% were using the internet for social networking sites and a majority of respondents were using the internet for enjoying movies, songs, and other multimedia platform. This finding shows that a little number of people are using ICT for accessing news or for educational purposes. Among the 45 respondents, 68% are using a 3G network and 20% are using 4G and the remaining 11.1 % are not using both 3Gand 4G. Among the 45 respondents, 20% are using mobile or internet banking, and the remaining 80% aren't using mobile internet banking. The study shows that mobile banking is extremely low and many hurdles may be the reason for its use.

Conclusion and suggestion

The Information and Communication Technologies is useful in facilitating the design of solutions to deliver government services, and programs, for social development at the doorstep of tribals. The approach is already experimented with and successfully implemented in many e- governance projects, but the main difficulty and challenging task are to execute such government-enabled schemes and programs among the tribal areas through ICT in a sustainable manner. ICT projects involve all stakeholders like government officials, legislators, regulatory agencies, citizens, voluntary organizations, technology consultants, vendors, academics, researchers, funding agencies, and media within the design level. Most of those were accomplished using the public-private partnership (PPP) model.

This paper has supported the study of the impact of different national-level ICT projects, schemes, and programs implemented in India for the event of rural mass, especially in tribal areas. Despite the bottleneck within the form of computer illiteracy and lack of e-preparedness, ICT has shown that it can reduce the cycle of the implementation plan, and hence immediate results deliverables are often visualized in every field of life Guidelines can be drawn for action in the field, for instance, to evaluate specific ICT for development initiatives in the tribal area. The findings of the study reveal that there exists some kind of digital divide among the tribal people in the concerned area, several schemes of the govt have not reached this area and a lot has to be done in this regard, the problem is not that the government schemes and programs are reaching to them but the major issue is about an area of interest still many men and women in tribal area still look or have an eye to those govt schemes and programs which cater their basic need of interest, they are not the concern of becoming a knowledgeable or an informed person but rather they're only concerned about having or arranging two times of meal per day and if govt does something in this regard in terms of freebies or any other their concern of interest arose further.

ICT is aimed toward bringing transparency and thereby improving governance and in this process, our invitation to the research community is to continue to reflect, explore and ultimately influence the utilization of ICT in e-deprived areas.

References

1. Census of India, Ministry of Home Affairs, Government of India, 1961-2011.
2. Statistical Profile of Scheduled Tribes in India. Ministry of Tribal Affairs, Government of India Chaudhuri, 2010.
3. Bhddhadeb (ed). Tribal Transformation in India,Vol. I, New Delhi: Inter-India Publications, 1992.
4. Chauhan Abha. Tribe Women and Social Change in India. A.C. Brothers, Etawah. D'Souza, V.S. (1990), Development Planning and Structural Inequalities: The Response of the underprivileged. New Delhi Stage. Fried. 1990.
5. Morton, the Notion of Tribe, Menlo Park, CA: Cummings Publishing Company. G. Kavitha, Lal B. Suresh (2007), Tribal Population in India with Reference to AP, AP Economic Association Conference 9th September at Bhadrachalam. Ghanshyam, 1975.

6. Shah & Others. Untouchability in Rural India, Sage Publications, New D, 2006.

7. Suresh PR, Cheeran TM. Education Exclusion of Scheduled Tribes in India. International Journal of Innovative Research & Development, 2015.

8. Kumar V, Bansal A. Information & Communication Technology for Improving Livelihoods of Tribal Community in India. International Journal of Computer engineering (IJCES), 2013, 13-21.

9. Mitra Aparna, Singh Pooja. "Trends in literacy rates and schooling among Scheduled Tribe women in India". International Journal of Social Sciences, 2008, 35(1/2).

10. https://www.meity.gov.in/

11. Computer Aided Learning under SSA: www.ssa.tn.nic.in/Docu/CAL%202011-ss.pdf

12. ICT in schools: http://mhrd.gov.in/ict_school

13. perform: www.iperform.classteacher.com

14. https://tribal.nic.in