

## THE IMPACT OF TECHNOLOGY AMONG RURAL COMMUNITY

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### **Abstract**

This study is important that will give the contribution to rural communities in technology. There is a huge impact appear either positive or negative to the rural communities. Other than that, this study also give effect to the whole of knowledge.

**Keywords:** rural, impact, technology

### **1. Introduction**

The purpose of this paper is to identify the impact of technology among rural communities. There are many studies that concerns about the technology among rural communities. As we know that, there are many types of technology that available for rural communities. For example, Information and Communication Technology (ICT), financial technology, agricultural and non-agriculture technology and so on. According to Salemink, et al (2017), telephones are used by many people for Internet access and this is one of the several technologies that available nowadays. According to Rahman, (2013), communication, technology and information are came from words that have their own meaning which was information and communication technology and also called as ICT.

In this paper, based on literature review there are many impacts of technology which rural gain best information medium and communication method (Paul & Uhomoibhi, 2014), facilitate financial matters (Lal, 2018) and media for agriculture and non-agriculture employment (Rotz et al., 2019)

### **2. Literature Review**

#### 2.1 The Impact of Technology among Rural Communities

##### 2.1.1 *Best Information Medium and Communication Method*

As we know, Information and Communication Technology (ICT) electronically store, receive and transmit the information. It available in wireless communication network that gives many benefits for people. For example, Information and Communication Technology (ICT) can make the information needed can be accessed easily. For example, via Google, the information seekers can get the information that they need. Not only that, Information and Communication Technology (ICT) also provide the fastest way to communicate in real time with people. For instance, instant messaging and texting is part of Information and Communication Technology (ICT).

According to Paul & Uhomoibhi, (2014), the increases of cell phones early 2000s in Malaysia in many rural village in Africa convey new possibilities in communication for rural communities. The increasing of access to telecommunication service via mobile phone has direct impact towards development of socioeconomic especially for rural communities in Africa. In their study, they focus on how solar electricity achieve their development and use it to solve problems in African which was grid-electricity that related. This was because of inadequate and unreliable grid electricity that had been suffered by African countries. The main finding from their study shows that countries that in developing condition where the application of ICT was widely in many areas, It offers many opportunities and chances for sustainable economic development that play the important role in economic growth in rapid condition, education, government, agriculture, enhancement in international competitive and also improvement in productive capacity. It also shows that ICT give significant impact for countries especially African. This was because of adequate and reliable electricity was lacking. Solar electricity had been the most effective method in electricity generation especially in remote rural areas which was for devices that related with ICT. For the diffusion to Africa of generation of solar power, many approaches have been determined included qualified engineering practice and solar professionals. PV market and business mode, first acquaintance to solar power learning in schools and universities, politicians that appreciate solar power as one of the main power element, reduce expenditure for PV technology, availability of financial mechanism for rural communities, exceptions in tax import and Africa countries about rural electricity as one of the basic needs. Radio can obtain information and can entertain in musical way in rural village in Africa for many decades. According to Aker & Mbiti (2010), limited range of information and the one way to communicate was radio. However, compared to Van Campen., et al (2000), the author state that TVs become available in some village in recent years. Even TVs in high cost and their grid electricity was lack, these could be the biggest obstacles for those who are in remote rural villages.

Information and Communication Technology (ICT) also narrowing gender gap in school enrolment. It can be seen in few ways which was great Information and Communication Technology (ICT) infrastructure or high level of ICT opportunities that brought the increasing of equality of gender in education. For example, according to World Bank (2012), accessibility to network, mobile phone and other information technology had tested to be useful in disseminate ideology of traditional social norm and gender equality that can weaken the pro-child bias and improve the incentives to get the education for female children. In the study, the author focusses on how to examine the gender gap in school enrolment and the spread of information and communication technology in rural China. The main finding from the study shows that the transmission of mobile phone and Internet access both distribute expand the female enrolment. It can be proven gender gap in enrolment not only by technology, but social norms also play their important role. As a result, the outcome also shows that female enrolment in community lower whereas the priority of pro-child stronger. This is because pro-child mastered technology and other factors. In addition, social media also the one of the

Information and Communication Technology (ICT). According to Kaplan and Haenlein (2010), p. 61, social media can be prescribed as a group of application based on Internet that construct basic ideology and Web 2.0 technology and enable the formulation and the user exchange of content. Example of social media application are Facebook, Instagram and the others. These platforms are used to get information and the method to communicate with others. Social media also gives benefit to farmers that conducted their agriculture activities. This claim can be supported by Rapp et. al (2013), found that social media directly changed how business communicate across distribution channel and with customers, agriculture can be apart with this change. In the study, the author focusses on analysing the usage of social media currently. The main finding from the study shows that the obstacles to accept the social media usage in agriculture-based enterprise. In conclusion, even though there are barriers and objections to usage of social media, their mass influence to involve with stakeholder and develop more entrepreneurial activity. The risk of reluctance of some users prevents them from change to engagement form observational mode. To conclude, best information method and communication give impact for rural communities because it makes the information delivered in quick time and effective in communication.

### *2.1.2 Facilitate Financial Matters*

Financial technology makes the work easier because all the financial matters like the transactions itself are in online. For example, borrow and do the investment only using devices without dealing with traditional bank. According to Lal (2018), Cooperative Bank have wide network in rural area and the local staffs in the good point to perceive the condition of rural area and the poverty issues. In the study, the author focuses on the effect of financial inclusion on rural development. The main finding from the study shows that financial inclusion over cooperative was explicit and the important impact on rural development. In addition, the result to support the impression that financial inclusion are the inclusive growth strategy, yet inclusive growth was the subgroup of a set of big inclusive growth that give advantage to achieve all, especially for women and children, minority group that too poor and that rejected in the lowest poverty line by the disasters and by human itself. According to Umeokeke., et al (2017), electronic wallet system gives positive impact to the welfare with ATE that treated (users). The authors said that electronic wallet system was the pathway for farmers that want to improve their agriculture compensation and to escape from poverty. In their study, the authors focus on the impact on electronic wallet system toward the farmers' welfare in Nigeria. The main finding from their study views that poverty, depth and harshness found more greater among non-users of electronic wallet system compared to the users itself in FGT analysis. PSM analysis shows that electronic wallet system has positive impact towards welfare. Sensitivity analysis of Rosenbaum exposed that sensitive discovery towards hidden bias due to unobserved features. In a nutshell, financial technology can make the financial matters completed easily without line up at the bank counter.

### *2.1.2 Technology for Agriculture And New Media Non-Agriculture Employment*

Agriculture is how food was processed, feed, fibre and any desired products by cultivation of certain plants and the improvement of livestock. However, with the availability of agriculture technology, all the process can be done in quick time and make the work easier. According to Rotz et al., (2019), technologies are establishing new convenience for agriculture sector, the total of migrant labour removed through automation or high skilled jobs that raise the related ethical questions. In the study, the authors focus on agriculture digitalization and automation and their impact towards labour and rural in food agriculture industry. The main finding from their study shows that one of the main conclusions was taken from literature which was the increasing of land price and input cost while commodity price has farmers that supported in all shape and size to minimize labour cost by any meaning. Lower experienced migrant labour replaced by mechanization technology, literature also shows the qualitative transition in farm labour happen whereas the total of job opportunities that higher skilled accessible for post-secondary graduates (Ontario Agricultural College, 2017; RBC, 2018). Non-agriculture can be defined as any employment that not related with agriculture itself. For example, educational program and career education program.

According to Wu, et al (2010), in the recent decades, local government taking a few steps to develop the agricultural productivity and to advocate the advocate agricultural technology. This technology included the highest one to produce the category of rice and the chemistry fertilizers usage. In their study, the authors focus on the effect of technology that based on farmers itself. The main finding from their study shows that upland rice technology gains the best effect and positive towards farmers' comfort, such as measured by the level of income and poverty itself. According to Zhou & Li, (2017), new media can fasten the wisdom of communication and the expenditure for spread knowledge itself more lower in rural atmosphere. For example, education and career training can be given directly through new media that continuously distribute to non-agriculture business and the yield improvement. In their study, the authors focus on the new pathway from poverty for rural area through encourage non-farm employment in new media usage. The main finding from their study shows that promotion of new media coverage can gain improvement not rural farm employment in China which was 10% - 20% and lastly raise income for rural communities. This discovery provides new proof for new media as new pathway from poverty for rural area. To conclude, variety of control and media specification, evaluation and alternative steps, examination in different subclass, an estimation with built pseudo panel. According to Gebrehiwot, (2015), the cooperation in IHEP extension program has decisive effect towards household income and investment in livestock and the others. In the study, the author focuses on the impact of the agriculture extension of system which was Integrated Household Extension Program (IHEP) due to participation oh household and the effectiveness of policy. The main finding from the study shows that extension program has big positive impact on household welfare which is improvement of income about 10% and investment but not effect to the variety of income. As addition to main variable, which is extension, the characteristics of household like the age of head of household,

gender, availability of adult labour in household itself, holding assets and the variable of social capital influenced by income, investment and the variety of income. In a summary, agriculture and non-agriculture technology like any media make the work of them easily without any problem. Most of the previous study focus on technology agriculture and new media for agriculture and non-agriculture employment. For example, agriculture digitalization and automation. However, the very limited previous studies focus on how to facilitate financial matters on rural such as electronic wallet system.

Table 1. Analysis of Review

Authors	Best Information Medium and Communication Method	Facilitate Financial Matters	Media for agriculture and non-agriculture employment
Lal, (2019)		/	
Paul & Uhomoibhi, (2014)	/		
Gu & Ozturk, (2016)	/		
Rotz., et al (2019)			/
Wu,. et al (2010)			/
Zhou & Li, (2017)			/
Morris & James, (2017)	/		
Umeokeke., et al (2017)		/	
Gebrehiwot, (2015)			/

### 3. Conclusion

In summary, there are many studies conducted about the impact of technology in rural. The literature found out that the higher studies were focused on best information medium and communication method and technology for agriculture and new media for non-agriculture employment. The author found that technology also will help the farmers of agriculture and the employee of non-agriculture helping them in ease their work. From the previous study, facilitating in financial matters are very least discussed by the authors and should be more focused in the future.

This research was created to give outline on the impact of technology among rural. Understanding of these impacts of technology among rural that will bring benefit in the future. The purpose of the current study was to observe are the impact of technology among rural such as rural communities and rural countries itself. Information

and Communication Technology (ICT), financial technology and agriculture and non-agriculture technology plays an important role in rural as mentioned in previous study.

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