Live Streaming–A Low Cost ICT Application for Emerging Agricultural Technologies

Subrata Manna[1] and Kausik Saha[2]

[1]Darjeeling Krishi Vigyan Kendra
[2]Malda Krishi Vigyan Kendra
E-mail: [1]send2subrata@gmail.com, [2]kausik552004@gmail.com

Abstract—*Application of ICT in agriculture sector can boost-up its performance. ICT application is a low cost technique for mass dissemination of research outcome which is environment friendly and can save papers and nature. Over half of India's 1.20 billion populations are under the age of 30 and this young generation is fond of electronic gadgets and use of internet. So higher the use of ICT in agriculture there will be more dissemination of knowledge and may also make the sector lucrative to the rural youth. YouTube started a new ICT tools "Live Streaming" on November 2008.*

YouTube Live stream is a totally free facility using which; we can experience the live TV show of any events. In addition to this, after live telecast the video is automatically saved in Gallery for future viewing. Video encoder software is installed on a smart phone with high speed internet connection. On another sight YouYube Live Streaming is configured on YouTube portal using desktop or laptop. The system works as an efficient tool for extensive outreach as well as lifetime documentation for any event. Further viewing of the uploaded video on agriculture can enhance the knowledge of the farmer without extra expense.

Keywords: *Agriculture, Auto-documentation, ICT, Live streaming, YouTube.*

1. INTRODUCTION

'ICT is a generic term referring to technologies that are used for collecting, storing, editing and passing on (communicating) information in various forms.'

ICT can play a significant role in addressing the challenges and play a key role in agricultural development and growth as it can bridge the critical knowledge gap between stakeholders. ICT in agriculture is an emerging field focusing on the enhancement of agricultural and rural development in India. It involves application of innovative ways to use Information & Communication Technologies (ICT) in the rural domain. The advancements in ICT can be utilized for providing accurate, timely, relevant information and services to the farmers, thereby facilitating an environment for more remunerative agriculture. In last two decades the exchange of Research Outcome among various research institutes has become smoother through online journal, agricultural portal, e-library etc. In Barak Obama's word, "India is fortunate to have over half of its total population of 1.2 billion under the age of 30 and this young generation is fond of electronic gadgets and use of internet. So higher the use of ICT in agriculture there will be more dissemination of knowledge and may also make the sector lucrative to the rural youth.

Live streaming through YouTube portal is another feather on ICT crown. We can reach unlimited number of targeted beneficiary through this facility. An Andriod mobile with high speed internet connection is the only requirement to avail this facility and in India, 4G mobile connection has crossed 40 million subscribers in recent past (TRAI, Press Release on "Telecom Subscription Data as on 28th February, 2017")

2. METHODOLOGY

To implement this facility we need to have/create a Google ID, verified with a valid phone number.

www.youtube.com > My Channel > Video Manager > Live Streaming

Basic Info > "Put Event Name" > Select Category as "Science & Technology" > Privacy as "Public". Change thumbnail with a photo that will be displayed before starting of the "Live Streaming"

Setting up Live streaming encoder:

Before we can start streaming on YouTube, we need to download encoding software. This allows us to capture content including our desktop, camera and microphone and send YouTube Live to the beneficiary.
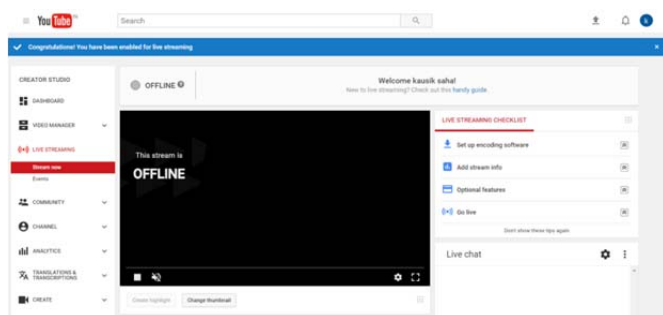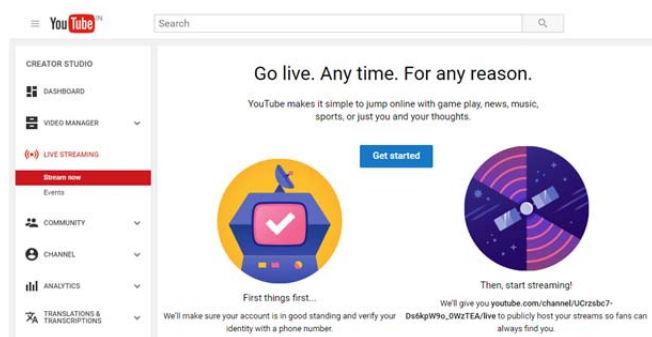
Source: www.youtube.com

Several encoding software for Android mobile are available in "Play Store". For reference here we selected "Live Video Stream on YouTube". We need to install this software in Capturing Device (mobile phone). Now Sign in with the same account you have already configured in YouTube > Select front or back camera for capturing and broadcast resolution > Get ready > Go Live Now > Start streaming.

Before we start we need to Confirm that our channel is verified and that we have no Live Stream restrictions in the last 90 days. Enable Live Streaming.

Live Streaming encoder

Source : www.youtube.com

3. ADVANTAGES

YouTube Live Streaming is different from other streaming or conferencing options available on social media sites or in webcasting software. Here Streaming Universal Resource Locator (URL) is created and using it anyone can view without login from any device.

The schedule of any upcoming event can be created and using that URL wide circulation of the event is possible.

We can reach to unlimited number of targeted beneficiary. No Registration or Login is required to view the video. Though point to point video chatting is available in many social networking site, but in that case viewer needs to login in that particular site and broadcaster needs to share the permission or link to the viewer.

Pre generated video URL can be embedded to any webpage easily. We can pre-schedule any programme and generated URL can be shared with others to view live telecast on scheduled date and time.

The service is completely fee. Hence using this service we can reduce the cost of knowledge dissemination per head. Using digital media is reducing the use of physical media like paper, Hence the system is environment friendly that save our nature also.

The technology broadcasted by any institute can be viewed by the farmer in their convenient time for their knowledge gain.

A feedback on the uploaded technologies from the farmer can be received by the institute for betterment of the service. We can have an idea on the number of viewers who have accessed the technology.

4. LIMITATION

Poor literacy rate among the farmers may also be a hindrance this system.

As we know aged farmers are technologic phobic, hence it may be a hindrance to those farmers. In this case they will require help from younger generation in accessing Live Streaming.

Slow internet connectivity in rural area is also a hindrance in accessing Live Streaming.

5. IMPACT ANALYSIS

Training and Demonstration	No. of Active participants	View
Oyster mushroom cultivation	25	95
Preparation of Coriander leaves sauce	22	51
Artificial breeding of Catfish	21	112
Bordeaux mixture preparation	24	56

According to Cone of Experience developed by Edgar Dale (1946), he stated that people generally remember 10% of what they read, 20% of what they hear, 30% of what they see, 50% of what we here and see, 70% of what we say and write and 90% what we do.

Through the use of Live Streaming we can enhance the knowledge or experience of the farmers' up to 50% of the above technologies without putting extra financial burden on the host institute. But impact analysis in realistic situation needs to be further studied.
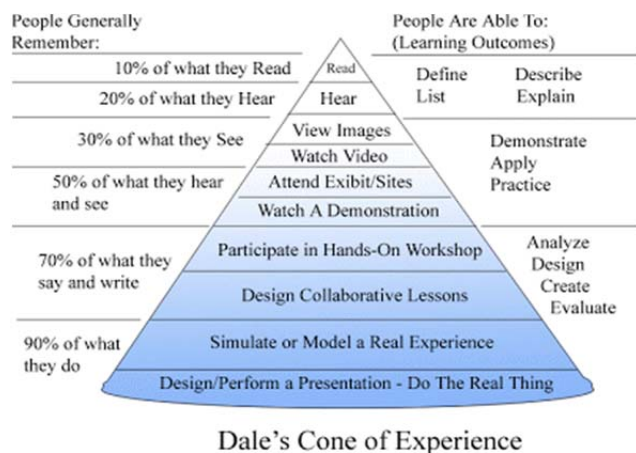
Source: Adapted from E. Dale, Audiovisual Methods in Teaching, 1969, NY: Dryden Press.

6. CONCLUSION

Live Streaming tool can speed up the extension activities where there is good internet coverage. Higher use of electronic media will reduce the burden on environment as it will be paperless extension activity.

7. ACKNOWLEDGEMENTS

REFERENCES

[1] Wikipedia (https://en.wikipedia.org/wiki/YouTube_Live). Accessed on 16/02/2017

[2] Dale, Edgar. Audio-Visual Methods in Teaching, 3rd ed., Holt, Rinehart & Winston, New York, 1969, p. 108

[3] TRAI, Press Release on "Telecom Subscription Data as on 28th February, 2017" (https://www.trai.gov.in). Accessed on 18/03/2017

[4] YouTube (https://support.google.com/youtube?hl=en) Accessed on 15/03/2017

[5] ICT to revolutionize Indian agricultural sector, by Dhananjaya P. Singh 2014.