

Online Application Platform for Farmers to Demand Agricultural Programs: A Case of Agriculture Development Office, Kavre, Nepal

Sujan Amgai* and Bivekananda Mahat²

¹Senior Plant Protection Officer, Beekeeping Development Center, Bhandara, Chitwan

²Agri-Extension Officer, Agriculture Development Center, Kavre, Nepal.

*Corresponding Author: sujanamgai@gmail.com

Abstract

The agricultural sector has undergone a massive digital transformation in the last decade. New digital tools are reshaping how farmers grow crops, and consumers buy them. With the use of information and communication technology (ICT), farmers can monitor their crops, respond quickly to threats such as disease or pests, and increase yields. In Nepal, farmers use software packages like Smart Krishi, Hamro Krishi, Digitally Enabled Seed Information System (DESI) software to gain information about crop production technologies and marketing. Additionally, farmers have the opportunity to apply for agricultural programs through online portals. To understand the status of online application platform, use by farmers to demand agricultural programs, a study was done in Kavre district of Nepal in August 2024. The study revealed that after the implementation of online application platform by the Agriculture Development Office (ADO), Kavre coverage of the number of remote farmers increased from 25 percent to 42 percent, and the average number of applications submitted increased from 70 percent to 82 percent. Accessibility and cost efficiency were found to be the major advantages of online application platforms, as farmers can submit their application forms from anywhere using ICT devices. Since online application platform improves application processes' accessibility and efficiency, other ADOs ought to implement it as well.

Keywords: Agricultural Programs, Communication, Information, Online Application Platform

Introduction

Agriculture, serving as the primary livelihood for the majority of Nepalese farmers in Nepal, plays a pivotal role in the nation's economy, contributing 23.4% of the country's Gross Domestic Product (MoALD, 2023). In recent years, there is a remarkable transformation in agricultural practices with the integration of Information and Communication Technology (ICT). ICT has played a significant role in revolutionizing farming practices by bridging information gaps, improving decision-making, and enhancing productivity and profitability (FAO, 2017). Since the 1970s, electronic record-keeping systems and services based on making informed decisions have been offered to producers (Kitchen, 2002). Online platforms can integrate various aspects of farm management such as crop planning, scheduling, resource allocation, and submit application forms to demand the agricultural programs by the farmers.

The software adopted by Seed Quality Control Center, Hariharbhawan, Digitally Enabled Seed Information System (DESI) is a very successful software that creates demand, supply, and facilitates the distribution of quality cereal seeds throughout Nepal (SQCC, 2023). Other apps such as Smart Krishi, Geo Krishi, Hamro Krishi, Nepali Krishi, Krishi Guru, etc., also provide information on cultivation technology of different crops and plant protection measures. Similarly, in an online application platform, farmers can submit their application forms through the internet, which does not require visiting the office (Dawadi, 2024). Farmers can apply from their home or from their respective local level, motivating farmers to submit their application forms from their fields. Promoting online applications in agriculture can significantly enhance efficiency. ICT awareness among the farmers provides equal opportunities for applicants to demand agricultural programs of the Agriculture Development Office (ADO) irrespective of their geographical location (Dawadi, 2024). ADO Kavre launched the online application platform for farmers to demand the agricultural program in November 2023.

The traditional application procedure to demand the agricultural programs involves the movement of farmers from their home to the agricultural office, apply forms for different agricultural programs in the agricultural office, and returning home, requiring farmers to spend a day on the application procedure. This costs additional time and money

for farmers in the remote area of Kavre district (Dawadi, 2024). While a lack of training and ICT education is one of the main challenges to the adoption of online platforms (Isitan, 2024), the majority of farmers lack familiarity with computers, smartphones, and other ICT devices, making it difficult to utilize digital information and services effectively (Dutta and Kakoti, 2024). Thus, this paper aims to provide a comprehensive overview of online application platforms to demand an agricultural program in the Kavre district of Nepal.

Objectives

The objective of this study is to understand the status of online application platforms for farmers to demand agricultural programs in Kavre district, Nepal.

Methodology

In August 2024, a comprehensive case study along with a key informant survey was conducted, while secondary data obtained from the ADO, Kavre, served as an important source of information and was systematically organized, processed, and analyzed using Microsoft Excel. The number of applicants and the number of agricultural programs for fiscal years 2079/80 and 2080/81, both before and after the implementation of the online application portal, were obtained from the ADO. Some study parameters were prioritized using the rank index.

Result and Discussion

1. Steps for application

ADO Kavre developed the portal for online application, where farmers can visit this site from ADO, Kavre’s official website. In this platform, farmers have the option to choose the different programs and upload the necessary documents as mentioned to apply for a suitable program. Finally, farmers can submit their application forms to the ADO office, Kavre. Figure 1 shows the official page of ADO, Kavre, where farmers can see the program application form, through which farmers can apply their application forms by using the internet.



Figure 1: Online application platform

2. Coverage of farmers through online platform

Agricultural programs are demanded by farmer in every fiscal year and ADO, Kavre launched their annual agricultural program from Bhadra month of every year. Farmers from all geographical regions can submit application forms to apply for their desired agricultural support program. Figure 2 presents the trend of farmers' application before and after the initiation of online application platform. The figure revealed that after the implementation of the online application platform, the coverage of the number of remote farmers increased from 25 percent to 42 percent, whereas application forms of farmers nearer to the ADO office decreased from 75 percent to 58 percent. This indicates that farmers in remote areas showed strong motivation to submit application forms from online platform.

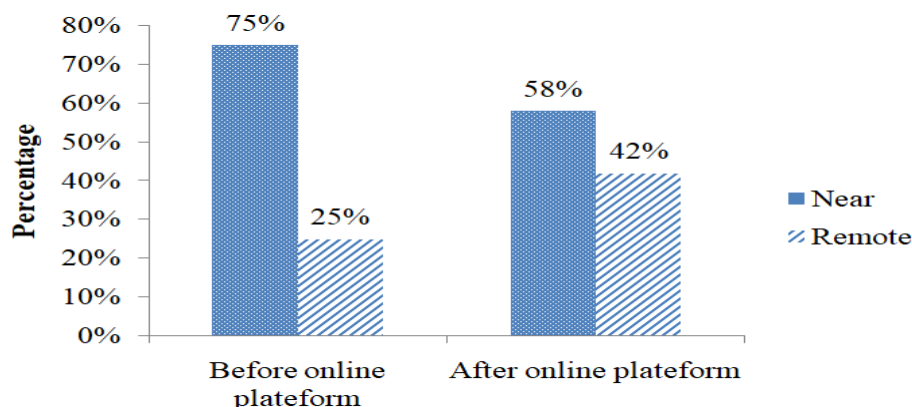


Figure 2: Coverage of farmers through online platform

3. Comparing the number of applications in online platform

Now, most farmers have ICT devices, which can be used to submit the application forms. The annual program of ADO Kavre includes Vegetable promotion program, Small irrigation program, Vegetable promotion in protected structure, Mushroom promotion program, Maize promotion program, Kiwi promotion program, Paddy promotion

program, Machinery distribution program, Spices crop promotion program, and Demand-based livelihood support program. Figure 3 presents the number of applications before and after the online platform, revealing that the average number of applications increased from 70 percent to 82 percent, which discourages the ADO to re-noticing their agricultural programs. This also made clear that most of the farmers are aware of the notice of the agricultural programs issued by ADO, Kavre. The support and promotional activities of the local level, Prime Minister Agriculture Modernization Project, District-based co-operatives, may also be helpful in disseminating information of ADO, Kavre.

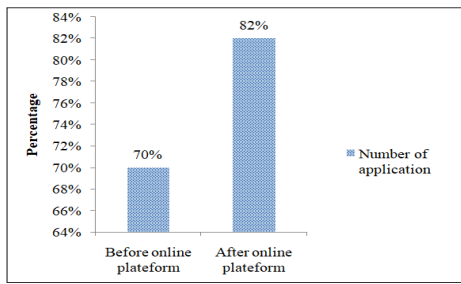


Figure 3: Comparing the number of application in online platform

4. Advantages of online application platform to the farmers

Online applications offer flexibility, convenience, and an easiness of application process that may enhance productivity and efficiency. Table 1 presents the advantages of online application platforms to farmers. The majority of the key informants' ranked accessibility as the first advantage of online platforms, i.e., farmers can submit their application forms from anywhere using ICT devices, which increases the farmers' access to agricultural programs irrespective of their location, followed by cost efficiency. Easier to apply and farmers can save their time are other advantages of the online application platform for farmers.

Table 1: Advantages of online application platforms to the farmers

Advantages	Index	Rank
Accessibility	3.8	I
Cost efficiency	2.6	II
Easier to apply	2.5	III
Farmer can save their time	2.2	IV

Conclusion

ICT has transformed application processes across various sectors, making them more efficient, accessible, and streamlined. In the agricultural domain, an online application platform has proven to be highly beneficial for farmers. After ADO, Kavre introduced such a platform, it experienced a significant increase in applications for its annual support programs, particularly from farmers in remote areas. The Online application platforms were found to increase access, reduce the need for farmers to travel from their fields to the office, and encourage the integration of ICT in agriculture. Given these advantages, other ADOs are encouraged to adopt similar online platforms to enhance service delivery and extend benefits to a broader base of farmers.

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