Agricultural Research & Technology
Open Access Journal
ISSN: 2471-6774

Juniper Publishers
key to the Researchers

Short Communication
Volume 27 Issue 3 - March 2023
DOI: 10.19080/ARTOAJ.2023.27.556377

Agri Res & Tech: Open Access J

Information Sources for Off-Season Vegetables Farmers in Nepal: A Study in Thaha Municipality, Makwanpur

Saurabh Bastakoti*, Mahesh Jaishi and Anupa Gaire

Institute of Agriculture and Animal Science, Tribhuvan University, Nepal

Submission: March 07, 2023; **Published:** March 21, 2023

***Corresponding Author:** Saurabh Bastakoti, Institute of Agriculture and Animal Science, Tribhuvan University, Nepal

Abstract

Effective dissemination of agricultural information is crucial for the transformation of agriculture. This study aimed to assess the effectiveness of various sources in disseminating agricultural information among commercial-oriented off-season vegetable farmers in the Palung area of Thaha Municipality. A cross-sectional survey was conducted using a structured schedule to collect data from a sample of 62 respondents through random sampling with the help of mWater surveyor. The data were analyzed using descriptive statistics, the Garret preference ranking method, and the Likert scale. The results indicated that the majority of the respondents were male (66.1%), aged between 31 and 45 years (54.8%), and had a primary level of education (45.2%). The study found that medium-sized farms (0.25-0.5 ha) were more common (50%) and that respondents had an average farming experience of 10-20 years (64.5%). The most accessible media sources were television and radio, which were preferred during the evening hours. The Garret preference ranking method indicated that agro vets were the most preferred source of information. Respondents expressed moderate satisfaction with the information received through radio and television, finding it moderately relevant and primarily helpful for knowledge development. The majority of the respondents (97.5%) perceived the information received through farming groups as helpful in accessing subsidies. The study recommends using agro vets and farmer groups to disseminate agricultural information and strengthen the agro-advisory service system in the study area.

Keywords: Off-season Farming; Agricultural Information; Thaha Municipality; Farmer Knowledge; Extension Services; Market access; Sustainable Agriculture; Vegetable Production

Introduction

Background

Agriculture is the backbone of the Nepalese economy, with more than 60% of the population relying on it for their livelihood. In recent years, off-season vegetable farming has gained popularity in Nepal, particularly in the mid-hill region, due to its potential for high profitability. However, to achieve maximum productivity and profitability, farmers need access to timely and accurate agricultural information. This study aims to investigate the sources of agricultural information used by off-season vegetable farmers in Thaha Municipality, Makwanpur, Nepal, and their effectiveness in improving agricultural practices.

Agricultural information is critical for improving productivity in farming. As Reddi (2005) notes, agricultural information interacts with and impacts agricultural productivity in various ways. Effective dissemination of agricultural information to rural farmers can help them learn about new agricultural technologies and research findings, including ways to apply fertilizers, insecticides, and fungicides to crops, better ways to cultivate and conserve soil, and ways to plant, harvest, and store crops. New techniques for raising animals, processing agricultural products, and marketing them are also available. Efficient extension communication techniques, such as mass media channels, can ensure that new ideas reach farmers' farms and homes before they can adopt and use the new technologies [1].

According to Kaye (1955), having the right information can improve decision-making, efficiency, and competitive advantage. Knowledge and information are essential for boosting agricultural output and productivity. The agricultural sector relies heavily on information for its operation and management. Information sources are tools that can potentially address the information needs of various individuals. They are messengers of information, and there are several sources of information. However, what matters is which sources are available and relevant to the various kinds of users and what sources of information are valuable for their various seeking behaviors, primarily for task/need fulfillment [2].

The mass media has become an increasingly effective way of informing populations of potential adopters about the existence of innovations. The widespread use of mass media in recent decades

has increased public awareness in various fields [3]. Agricultural information can be disseminated via various sources, including TV, radio, newspapers, the internet, mobile phones, and extension workers. Commercial agriculture refers to the production of crops on a large scale with the goal of distributing them widely to wholesalers or retail establishments. Growing crops and/or raising animals for human consumption, food production, or export under the umbrella of commercial farming is done primarily for financial gain (Miller, n.d.). A commercial farmer produces crops for the food industry, the pharmaceutical industry, the production of animal feed, and the burgeoning herbal industry. Crop planting, fertilization, harvest, and transportation to the appropriate production elevators for sale at harvest are all tasks that fall under the purview of the commercial farmer.

Off-season vegetables are those that are raised outside of the typical growing season. Alternative agro-climatic conditions, planting times, variety selection, and/or controlled environments may be employed to achieve this. The definition of off-season vegetables typically refers to the demand or consumption in the major markets. Although it is an off-season commodity for the desired destination market, it is a normal-season commodity for the production areas. Many regions are growing due to the potential for off-season marketing, including Panchkhal (Kabhre), Tistuing, Palung, and Daman (Makwanpur); Ranipauwa (Nuwakot); Basantpur, Hile, and Sidhuwa (Dhankuta); Madanpokhara (Palpa); and the north-south road corridors of Dadeldhura, Ratanangla/Daile [4]. Due to their limited supply and high demand, off-season vegetables grown during these times have high prices in the plains (USAID Nepal, 2011).

The use of information sources is a critical component in the dissemination of information, particularly in the agricultural sector. According to Bates [2], whatever humans interact with or see can be a source of information. The information source is a storage medium for knowledge and/or information, or something that contains and/or stores information [2]. Agricultural information can be disseminated through various sources, such as TV, radio, newspapers, the internet, mobile phones, and extension workers (Adio, 2016).

The present study focuses on the source of agricultural information used among off-season vegetable farmers in Thaha municipality, Makwanpur. The findings of this research help to contribute to the understanding of the current status of agricultural information dissemination in Palung and help identify areas for improvement. The results of the study will provide insights for policymakers, agricultural extension workers, and other stakeholders to design and implement effective strategies for disseminating agricultural information to off-season vegetable farmers. Ultimately, the thesis aims to promote the adoption of best agricultural practices and enhance the productivity and profitability of off-season vegetable farming in Palung and other similar regions in Nepal.

Methods and Methodology

Initially, desk research was carried out. It was based on internet research, as well as a number of books and journals. The study took place in Aug/Sept 2021. Fieldwork activities complemented national and international literature reviews on related topics.

Site selection

The research was carried out in the Palung area of Makwanpur district. Palung is located in the Thaha Municipality of Makwanpur District in the Bagmati Province of Nepal. It had a population of 5,603 people and 1,236 households [5]. The purposive selection of this area was based on the fact that the majority of the people are involved in off-season vegetable farming, and this location was easily accessible. Vegetables grown in Palung, Makwanpur district, are considered off-season in Kathmandu, Pokhara, and Terai regions due to climatic variations. It was supposed that they had access to various modes of communication and that farmers used them to acquire farming information. There are three major FM stations prevailing in the district: Radio Palung (107.2 MHz), Daman FM (90.8Mhz), and Radio- Indrasarowar (105.8 MHz).

Sampling strategy

The total number of farmers in the Palung area served as the study's theoretical population. Only the farmers registered in Krishi Gyan Kendra of Makwanpur district were considered as the sampling population. Samples were taken in such a way that farmers from each ward were represented. 170 total farmers were registered in Gyan Kendra and 62 samples were taken from the online sample calculator.

Data collection technique

A standard schedule was created for the study, and a Household survey was conducted. The schedule was used to conduct face-to-face interviews with the respondents. Mwater surveyor was used to collect data.

Socio-economic variables

The socio-economic data were evaluated using descriptive tools such as frequencies, percentages, and means to represent characteristics such as family size, economically active population, education level, caste, and size of holdings.

Garret preference ranking

Garret Preference ranking tool was used to rank preference of different sources of information.

$$Percentage\ position = \frac{100(Rij - 0.5)}{Nj}$$

R_{ij} = Rank given for the i^{th} variable by the j^{th} respondent

N_j = number of variables ranked by the j^{th} respondent

How to cite this article: Saurabh Bastakoti, Mahesh Jaishi and Anupa Gaire. Information Sources for Off-Season Vegetables Farmers in Nepal: A Study in Thaha Municipality, Makwanpur. Agri Res & Tech: Open Access J. 2023; 27 (4): 556377. DOI: 10.19080/ARTOAJ.2023.27.556377

Data analysis technique

The survey data was analyzed using descriptive tools such as mean, frequency and percentage. Microsoft Office Excel 2010 and IBM SPSS statistical software (version 23) were used to tabulate and analyze the data.

Result and Discussion

Data regarding the study were gathered and analyzed in 2021. Information about respondents was collected on socioeconomic characteristics of respondents, source of agriculture information, and perceptions related to the effectiveness of source in the dissemination of agricultural technology.

Socioeconomic characteristics

It was observed that 83.9% of the total surveyed households in Palung, Thaha Municipality, were male-headed households, while 16.1% were female-headed households. This clearly demonstrates male-headed households' dominance. According to the results of the survey, Newar ethnic communities make up the majority of the Janajati population (74.2 %), followed by Brahmin/Chetri (21%) and Dalit (4.8%). A quarter of the total population (25.8 %) is illiterate. It was discovered that the majority of respondents engaged in agriculture were middle-aged people aged 31-60 who were deprived of education when they were young. Only 27.4 % of respondents were educated up to the secondary level, with only a few going on to the higher secondary level. Their agricultural knowledge and skills are acquired through experience or informal education.

Source of income

Agriculture is the primary source of income in the study area. In Palung, off-season vegetable crops are the major source of household income. The secondary source of Household income is found to be trade/business, followed by wage/labor. The average family size is found to be 5. Annual income from agriculture ranges from USD $1525-$11440 with an average of USD $2890.

Experience of farming and type of land

Off-season vegetable farming was reportedly started in 2050 B.S., based on responses from survey participants, and in about two years, nearly everyone in the region had switched to off-season vegetable farming. Out of the total respondents, it is found that only 9.7 % have less than 10 years of experience, 25.8 % have more than 20 years of commercial vegetable farming experience, and the remaining 64.5 % have between 10 to 20 years of experience (Table 1). The land status of 66.1 % of the total respondents is found to be owned by the landholders themselves, while 33.9 % cultivate on leased land (Figure 1). Out of total respondents, 22.6% are found to have land holding greater than 0.5 hectares (Figure 2). The average size of agricultural landholding in Nepal is 0.7 hectares in rural areas and 0.5 hectares in urban areas [6].

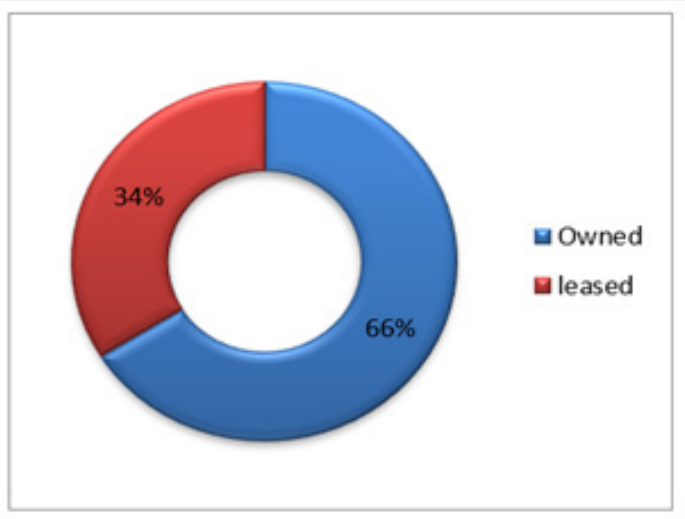

Figure 1: Land status of respondents in Palung on Nov 2021.

Table 1: Years of experience of farming of respondents in Palung on Nov 2021.

Years of Farming Experience	Frequency	Percentage
Less than 10 years	6	9.70%
10-20 Years	40	64.50%
More than 20 Years	16	25.80%
Total	62	100%

How to cite this article: Saurabh Bastakoti, Mahesh Jaishi and Anupa Gaire. Information Sources for Off-Season Vegetables Farmers in Nepal: A Study in Thaha Municipality, Makwanpur. Agri Res & Tech: Open Access J. 2023; 27 (4): 556377. DOI: 10.19080/ARTOAJ.2023.27.556377

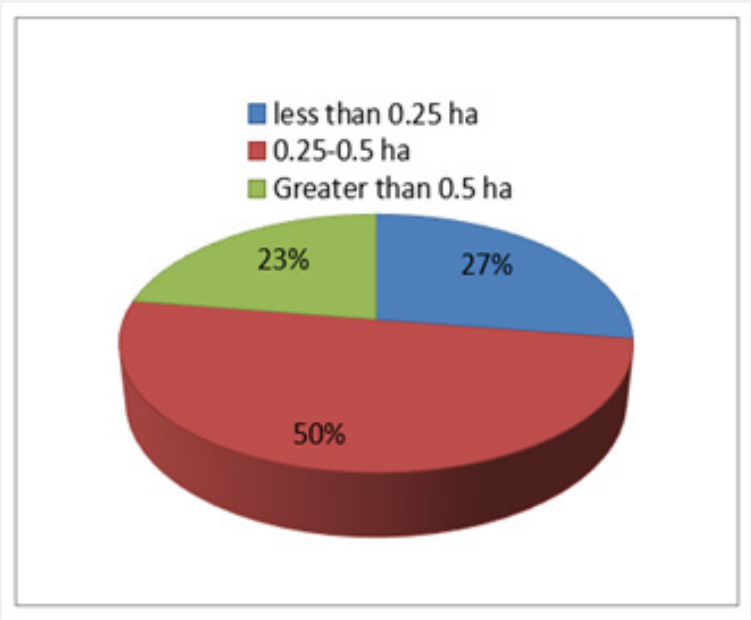

Figure 2: Area of land holding of respondents in Palung on Nov 2021.

Source of agriculture information

Based on the research conducted we concluded that 87.10% of respondents have availability of TV service at home followed by 67.74% respondents with information sharing and supporting Farming groups, 66.13% of respondents have the facility of Radio at home, 35.48% have Internet facility and 6.45% have not enjoyed any of the services [7-10].

From Garret Preference Ranking it was found that Agro-vet was the best-preferred source of information with the average mean of 69.63 followed by information shared and discussed with other neighbor farmers (56.73), information shared and discussed in Farming groups (45.80), while Radio ranked 4th with 44.03 average mean as a source of information whereas TV was ranked 5th with 43.05 mean average and Internet was ranked last as a source of information with 40.48 mean average (Figure 3). Though the use of the Internet is seen more in developed countries and places, in our study area, use of the Internet was not widespread among the farmers. Agro-vet was the most effective source because agro-vet service providers are familiar with their local situation and are able to give advice that fits farmers' need.

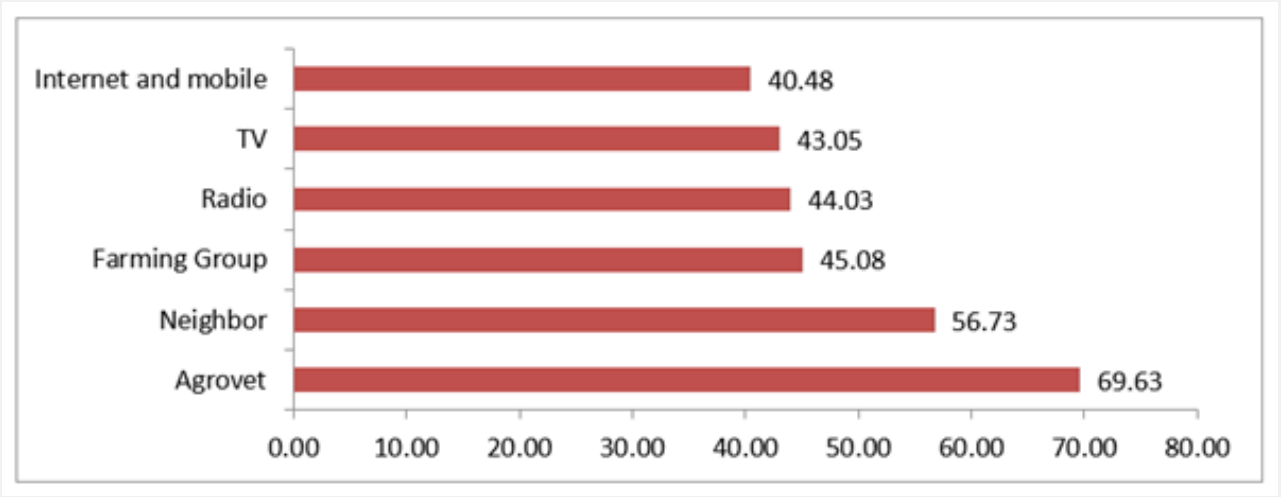

Figure 3: Garret Preference Ranking of different source of information in Palung Nov 2021.

How to cite this article: Saurabh Bastakoti, Mahesh Jaishi and Anupa Gaire. Information Sources for Off-Season Vegetables Farmers in Nepal: A Study in Thaha Municipality, Makwanpur. Agri Res & Tech: Open Access J. 2023; 27 (4): 556377. DOI: 10.19080/ARTOAJ.2023.27.556377

Uses in regular life

Out of the total respondent, those who have availability of Radio, TV, and Internet, 61%, 92%, and 100% of them use Radio, TV, and Internet every day respectively (Figure 4). But only 78%, 64%, and 90.9% of them use Radio, TV, and the Internet to gather agricultural information respectively (Figure 5).

47.3% of respondents watched agricultural programs on the NTV channel followed by Krishi TV. Some of the respondents were found watching other channels as well (Table 2). For 63.3% of internet using respondents YouTube is found as a source of information followed by Facebook and Google (Figure 6).

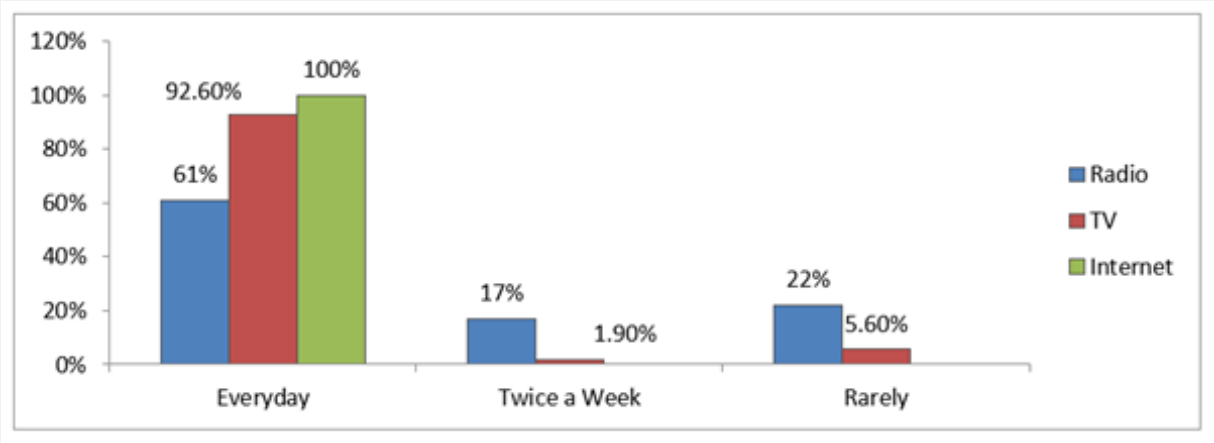

Figure 4: Responses on use of Medias in regular life in Palung Nov 2021.

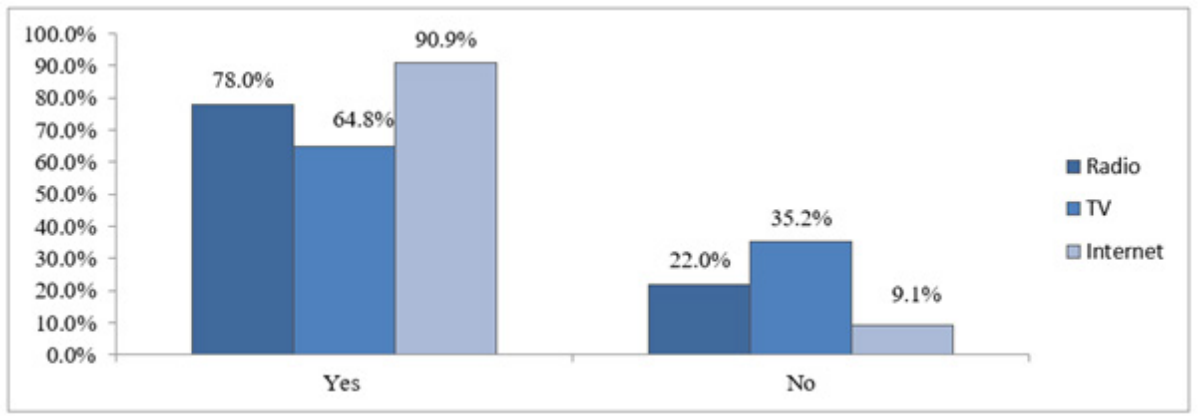

Figure 5: Responses on use of Medias to gather agriculture information in Palung Nov 2021.

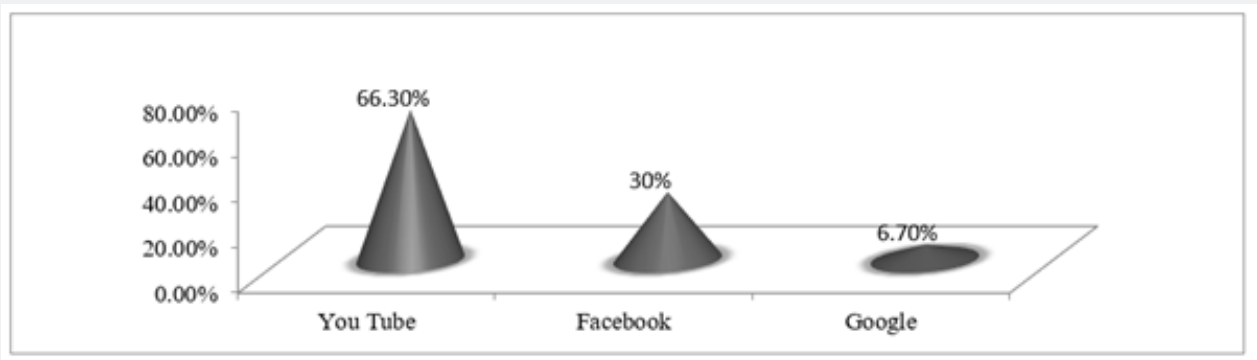

Figure 6: Perception on source of information for Internet user in Palung Nov 2021.

How to cite this article: Saurabh Bastakoti, Mahesh Jaishi and Anupa Gaire. Information Sources for Off-Season Vegetables Farmers in Nepal: A Study in Thaha Municipality, Makwanpur. Agri Res & Tech: Open Access J. 2023; 27 (4): 556377. DOI: 10.19080/ARTOAJ.2023.27.556377

Table 2: Respondent watching different TV channels for information in Palung on Nov 2021.

Channel	Respondent Percent
NTV	47.30%
Krishi TV	36.40%
Other	16.40%

Relevancy and satisfaction of agriculture information

Only 37.5 percent and 26.4 percent of respondents on radio and television respectively were positive and agreed that information received is highly relevant in improving agricultural production, while the majority of respondents (50 % for radio and 61.8 % for television) are somewhat against this perception and responded that information received through them is only somewhat relevant in improving agricultural production (Table 2). Most of the respondents; i.e. 34.6%, 40%, 46.2% for Radio, TV, and Internet respectively have felt that agricultural information provided through them was highly satisfactory (Table 2). The majority of farmers, 51.5 %, believe that information obtained from farming groups is highly relevant (Table 2). They believed that with the help of the group, they could obtain information about new technologies, which would be beneficial in solving problems, as well as financial assistance [11-17].

Perception on broadcast time

More than half of the respondents in the study area are aware of the time at which agricultural programs are broadcast on radio and television. The majority of them are satisfied with the timing of agricultural programs (Table 3).

The majority of people have preferred the afternoon time to be most favorable for broadcast on both Radio and TV. Respondents also prefer listening to the radio in the morning because the program can be listened to while doing housework (Figure 7).

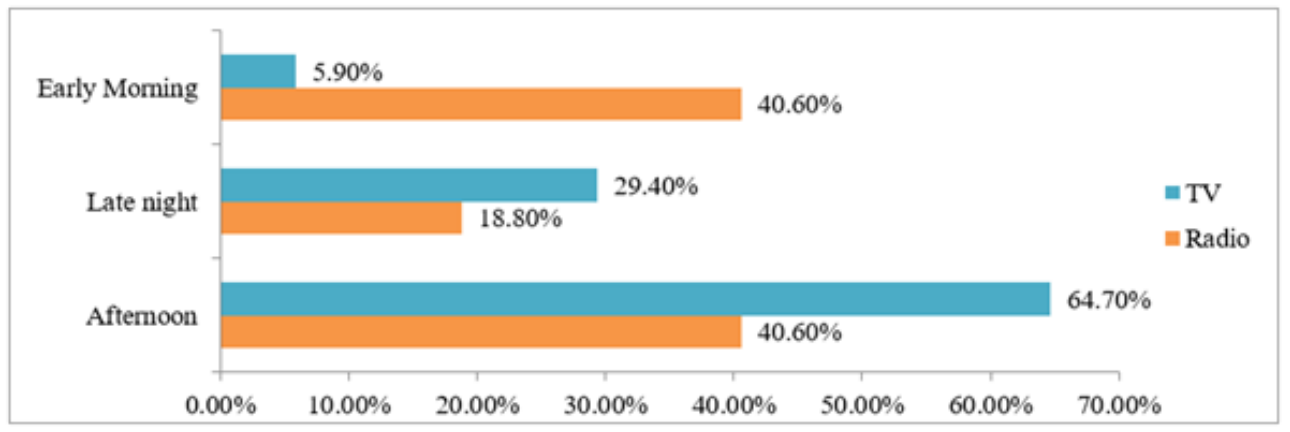

Figure 7: Perception on preference of respondents of broadcast time in Palung Nov 2021.

Table 3: Perception of respondents on broadcast time in Palung on Nov 2021.

Media	Do you know the Broadcasting Time		Is the Present Time Appropriate	
	Yes	No	Yes	No
Radio	59.40%	40.60%	85.30%	14.70%
TV	70.60%	29.40%	84.40%	15.60%

Effectiveness of sources of information

The farmers of the study area were asked to perceive the effectiveness of received agricultural information through various sources of information in solving agricultural problems. It was found that information obtained from farmer groups was perceived as helpful for access to support and capacity development. Information obtained from TV and radio was perceived effective mostly for capacity development [18-28].

Framework condition and others

Participation in farming groups and agro-vet services

From our study, it is found that 98.2% of participants involving in Farming groups have attained some sort of training program at least once in their lifetime (Figure 8). Nearly eighty-two percent of respondents who are in farming groups join meetings regularly, and 6.1% of them are not attending meetings due to a lack of suit-

How to cite this article: Saurabh Bastakoti, Mahesh Jaishi and Anupa Gaire. Information Sources for Off-Season Vegetables Farmers in Nepal: A Study in Thaha Municipality, Makwanpur. Agri Res & Tech: Open Access J. 2023; 27 (4): 556377. DOI: 10.19080/ARTOAJ.2023.27.556377

able leaders in farming groups or some internal misunderstandings between members (Figure 9).

27.4% of farmers are highly satisfied with the services and information obtained from Agro-vet. They found these sources highly reliable for advice. The obvious reason is the familiarity of the service providers with their local situation and their ability to give advice that fits their needs. But 9.7% of the farmers don't agree with this and 62.3% are moderately satisfied as Agro-vet service providers are recommending more amounts of agricultural inputs than required for business purposes. Farmers also want more organic solutions that can heal their damaged soil rather than chemicals, which are degrading their lands. The majority (41.30%) of the farmers were most likely to visit the Agro-vet if they have a question about farming followed by Neighbors (30.10%) (Figure 10).

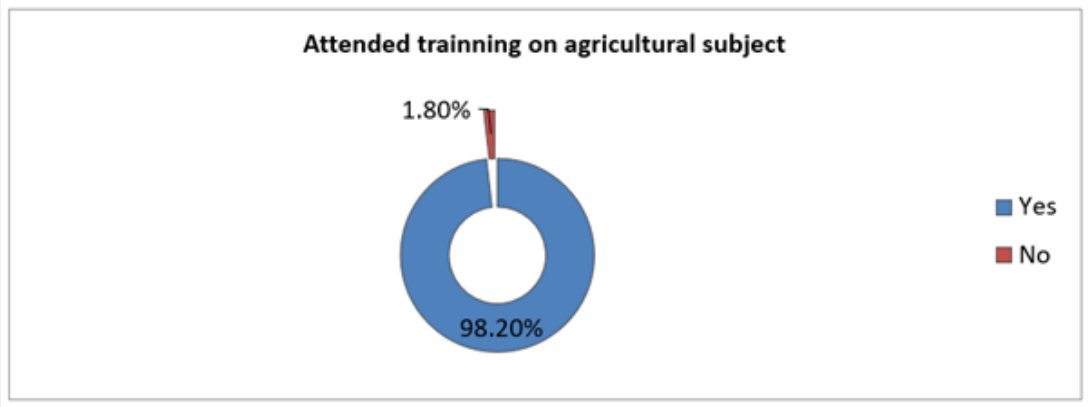

Figure 8: Respondents who have attended some sort of agricultural training in Palung Nov 2021.

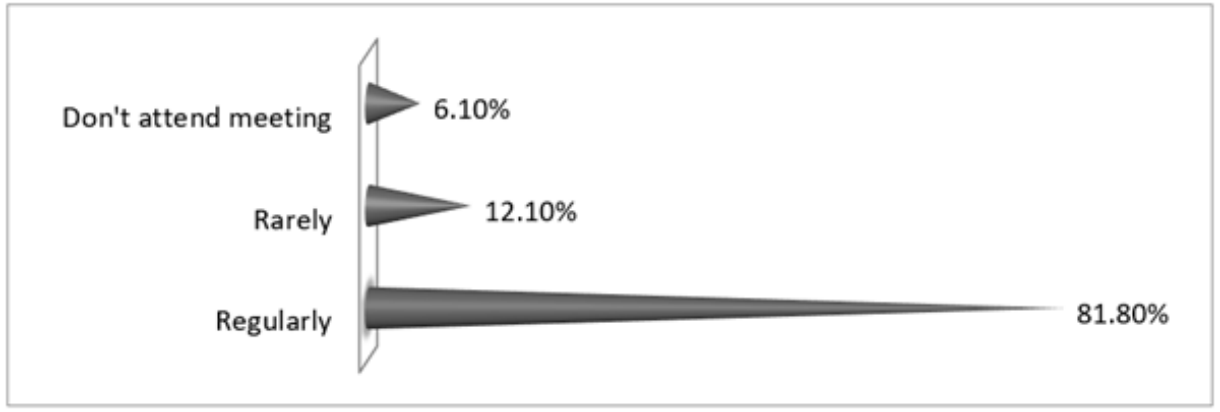

Figure 9: Information on frequency of joining meeting by respondents in Palung Nov 2021.

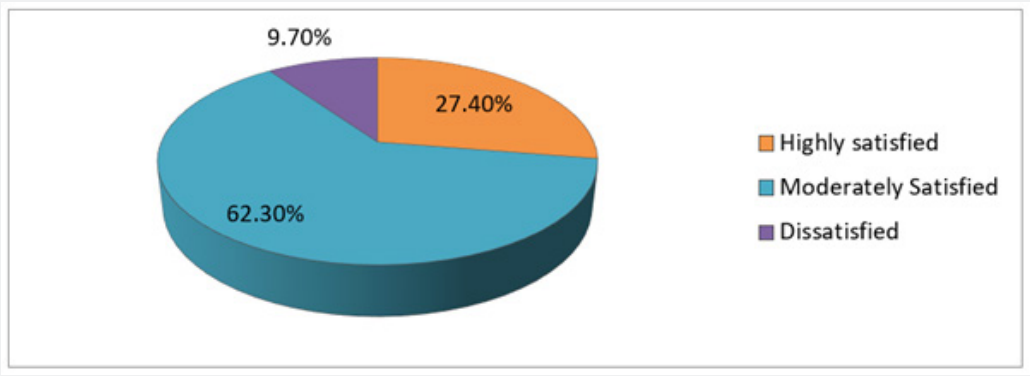

Figure 10: Perception on satisfaction from Agro Vet services in Palung Nov 2021.

How to cite this article: Saurabh Bastakoti, Mahesh Jaishi and Anupa Gaire. Information Sources for Off-Season Vegetables Farmers in Nepal: A Study in Thaha Municipality, Makwanpur. Agri Res & Tech: Open Access J. 2023; 27 (4): 556377. DOI: 10.19080/ARTOAJ.2023.27.556377

Decision on agricultural activities

Overviewing the gender situation of the households, in 50% of households agricultural decisions are taken by both male and female while 33.9% household only male member takes agricultural decisions. Only 16.1% of households have female decision makers. This shows that there is somehow appreciable situation for equal participation (Figures 11-16).

Figure 11: Major Occupation of the respondents in Palung Nov 2021.

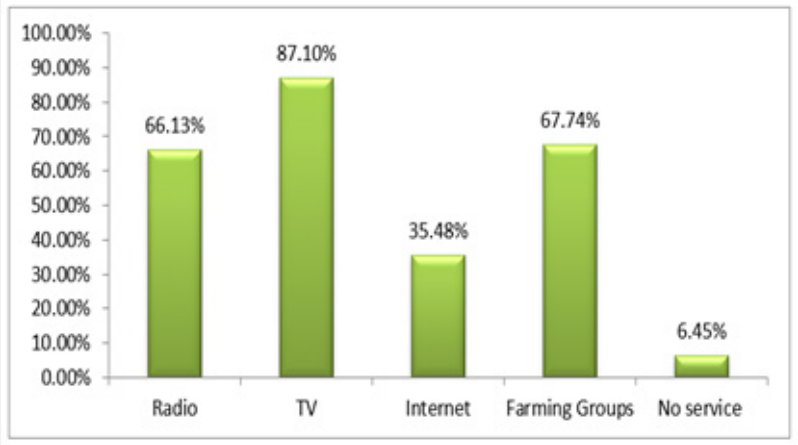

Figure 12: Availability of Services to respondents in Palung on Nov 2021.

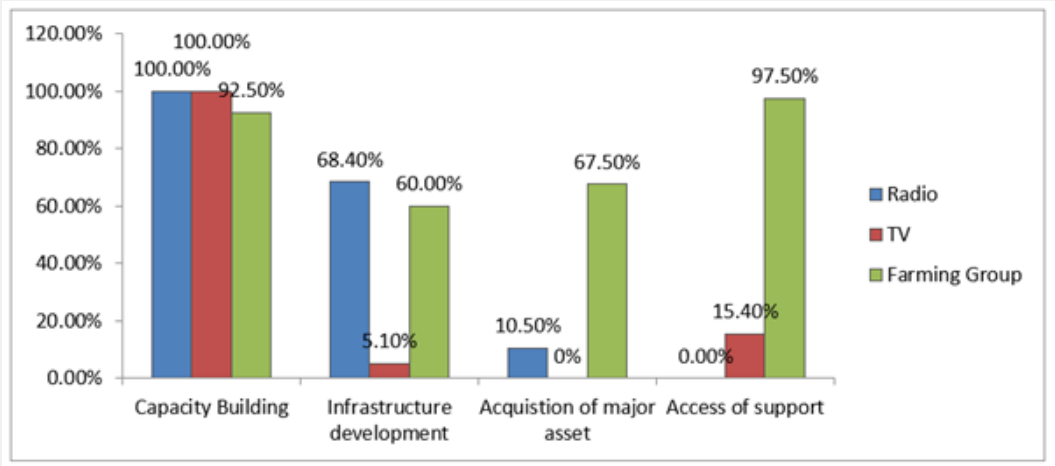

Figure 13: Perception on effectiveness of different source in Palung Nov 2021.

How to cite this article: Saurabh Bastakoti, Mahesh Jaishi and Anupa Gaire. Information Sources for Off-Season Vegetables Farmers in Nepal: A Study in Thaha Municipality, Makwanpur. Agri Res & Tech: Open Access J. 2023; 27 (4): 556377. DOI: 10.19080/ARTOAJ.2023.27.556377

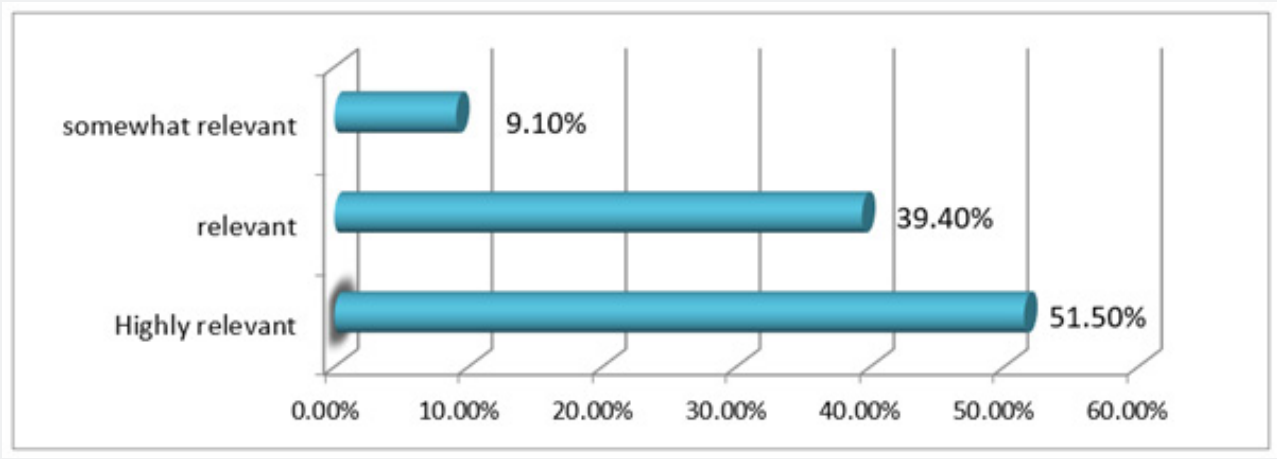

Figure 14: Relevance of agriculture information obtained from Farming Group in Palung Nov 2021.

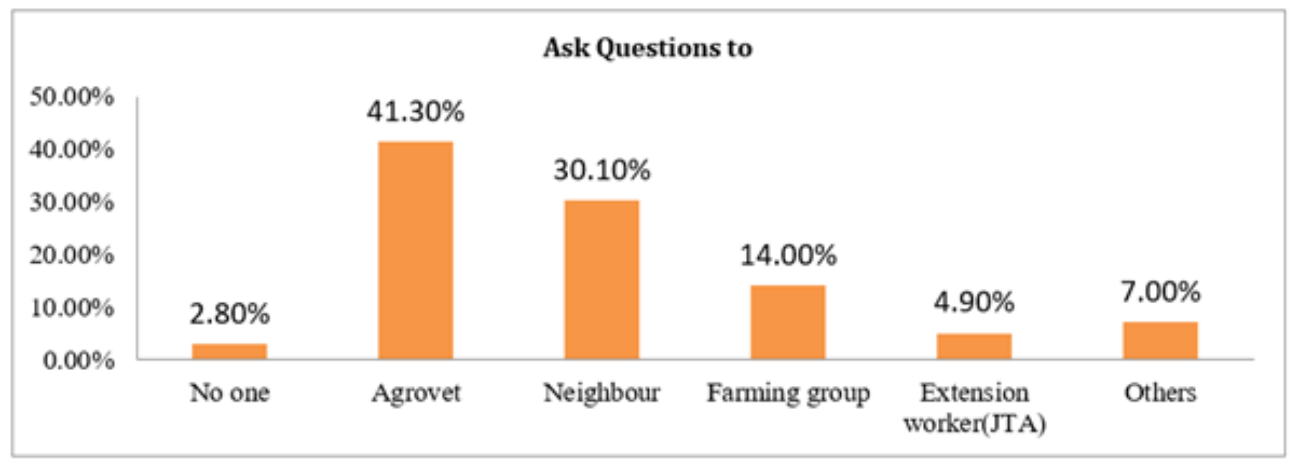

Figure 15: Source of advice for agriculture related problem in Palung Nov 2021.

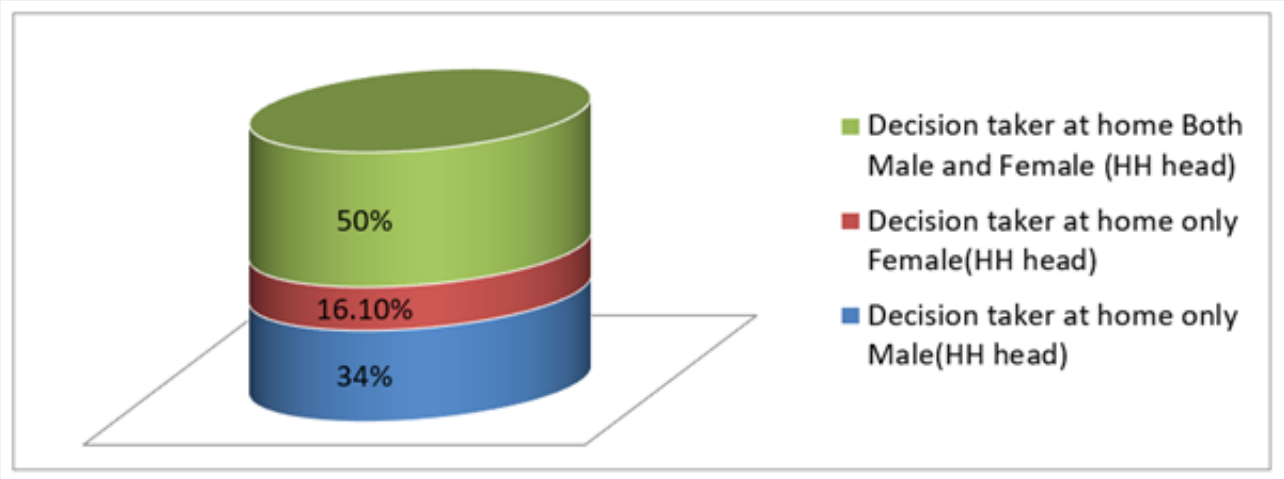

Figure 16: Decision on agricultural activities in Palung Nov 2021.

How to cite this article: Saurabh Bastakoti, Mahesh Jaishi and Anupa Gaire. Information Sources for Off-Season Vegetables Farmers in Nepal: A Study in Thaha Municipality, Makwanpur. Agri Res & Tech: Open Access J. 2023; 27 (4): 556377. DOI: 10.19080/ARTOAJ.2023.27.556377

Conclusion and Recommendation

From this research, it can be concluded that agriculture is the primary source of income for households in Palung, Thaha Municipality, with off-season vegetable farming being the major source of income. The majority of households are male-headed, and the Newar ethnic community makes up the majority of the Janajati population. Illiteracy is prevalent, with most respondents engaged in agriculture being middle-aged people deprived of education when they were young. Agro vet is the most effective source of information, and farming groups are considered highly relevant in providing agricultural information. However, they are using radio and TV to receive information about the fluctuation of price, demand, and supply of agricultural products. Age, primary occupation, and literacy significantly affect the use of the internet in the study area (Table 4).

Table 4: Responses on relevance and satisfaction level of agricultural information through different source in Palung on Nov 2021.

Relevance of Information	Radio	TV	Farmer Group
Highly relevant	37.50%	26.40%	51.50%
Moderately relevant	50%	61.80%	39.40%
Irrelevant	12.50%	11.80%	9.10%
Satisfaction from the Broadcasted Contents			
Media	Highly Satisfied	Moderately Satisfied	Dissatisfied
Radio	34.60%	50%	16.60%
TV	40%	57.10%	2.90%
Internet	46.20%	51.10%	2.30%
Service of Agro-vet	27.40%	62.30%	9.70%

Recommendations

i. Agro vets and farming groups could be used to disseminate agricultural information. The municipality could strengthen the agro-advisory service system by strengthening the capacity of agro vet service providers and farming groups.

ii. Government initiatives are needed to improve access to education, particularly in rural areas, to enable farmers to gain knowledge and skills that will enhance their agricultural production.

iii. As off-season vegetable farming is the major source of income, farmers need to be provided with training and support to improve the quality and quantity of their vegetable crops.

iv. To improve access to agricultural information, the government and other organizations should support the establishment and maintenance of farmer groups.

v. Efforts should be made to increase the use of digital technologies such as the Internet to provide farmers with up-to-date and relevant information.

vi. The government should consider policies to ensure that agricultural information is disseminated through various sources at times when farmers are available and receptive, such as in the afternoons and through radio programs that can be listened to while doing housework.

vii. Special attention should be given to female-headed households, who are relatively fewer in number, to ensure that they have equal access to education and other opportunities to improve their agricultural productivity.

viii. Finally, there is a need for further research to understand the barriers that prevent farmers from accessing and using agricultural information and to develop strategies to overcome these barriers.

References

1. Abubakar B, Ango A, Buhari U (2010) The Roles of Mass Media in Disseminating Agricultural Information to Farmers in Birnin Kebbi Local Government Area 0f Kebbi State: A Case Study of State Fadama II Development Project. Journal of Agricultural Extension 13(2): 42-54.
2. Chhachhar AR, Omar SZ, Soomro B (2012) The role of television in dissemination of agricultural related information among farmers. Research Journal of Applied Sciences 7(9): 505-509.
3. NDRI (2015) Report on Impact Assessment of Effectiveness of AICC's Communication Sources in Agriculture in Western.
4. Pandey IR, Shakya SM (1995) Vegetable Developmnent in the Last Six Decades in Nepal.
5. Planning N, Secretariat C (2012) National Population and Housing Census 2011 (National Report) Government of Nepal.
6. FAO (2019) Country gender assessment of agriculture and the rural sector in Nepal. Kathmandu. Licence: CC BY-NC-SA 3.0 IGO. p. 76.
7. Adejo SO, Adejo PE, Edoka MH (2015) Assessment of Farmers Awareness of Print Media in the Acquisition of Agro- Information in Kogi State Esxon Publishers. International Journal of Applied Research and Technology 4(10): 107-112.
8. Basweti E, Maobe S, Ochola W (2016) Influence of Socio-Economic Status on Implementation of Agricultural Extension Approaches among Smallholder Farmers: A Case of Agricultural Institutions in Nyanza-Kenya. World Journal of Agricultural Sciences 12(4): 315-326.
9. Buchanan ME (1981) Methods of data collection. AORN Journal 33(1).
10. Danso AG, Ehiakpor DS, Aidoo R (2018) Agricultural extension and its

How to cite this article: Saurabh Bastakoti, Mahesh Jaishi and Anupa Gaire. Information Sources for Off-Season Vegetables Farmers in Nepal: A Study in Thaha Municipality, Makwanpur. Agri Res & Tech: Open Access J. 2023; 27 (4): 556377. DOI: 10.19080/ARTOAJ.2023.27.556377

effects on farm productivity and income: Insight from Northern Ghana. Agriculture and Food Security 7(1): 1-10.

11. Dhital PR (2017) Agricultural Extension in Nepal: Experiences and Issues. Journal of Advances in Agriculture 7(3): 1071-1082.
12. Farooq S, Muhammad S, Chauhdary KM, Ashraf I (2007) Role of Print Media in the Dissemination of Agricultural Information Among Farmers. Pakistan Journal of Agricultural Science 44(2): 378-380.
13. Food and Agriculture Organization (2010) Agricultural Extension Services Delivery System in Nepal Food and Agriculture Organization of the United Nations. June.
14. Ismanto H, Suharto A, Arsyad L (2018) Ranking method in group decision support to determine the regional prioritized areas and leading sectors using Garrett score. International Journal of Advanced Computer Science and Applications 9(11): 94-99.
15. Khanal SR (2013) Role of radio on agricultural development: A review. Bodhi: An Interdisciplinary Journal 5(1): 201-206.
16. Lighton JRB (2018) Data Analysis and Presentation. Measuring Metabolic Rates. pp. 177-192.
17. No C (2011) Value Chain / Market Analysis of the Off-Season Vegetable Sub-Sector In.
18. Parvizian F, Lashgarara F, Nejad GHH (2011) Investigating the role of radio and television programs on the improvement of agricultural extension. American Journal of Scientific Research 1(16): 6-14.
19. Paudel R, Baral P, Lamichhane S, Marahatta BP (2018) ICT Based Agro-Advisory Services in Nepal. Journal of the Institute of Agriculture and Animal Science 35(1): 21-28.
20. Addul RC, Barkatullah Q, Ghulam MK, Shakil A (2013) Using information and communication technologies (ICT) in agriculture development. Life Science Journal 10(6): 804-812.
21. Rijal S, Devkota Y (2019) Television for Agricultural Extension in Nepal. Acta Scientific Agriculture 3(9): 45-47.
22. Sergeant JC (2003) The mass media. The Cambridge Companion to Modern French Culture pp. 82-103.
23. Sethuraman SP, Sontakki BS, Sulaiman RV, Mittal N, Manager P (2017) Agricultural Extension in South Asia (AESA) Manual on Good Practices in Extension Research & Evaluation.
24. Suvedi M, Kaplowitz M (2016) Process Skills and Competency Tools: What every extension worker should know: core competency handbook.
25. Thapa K (2018) ICT in Agriculture: Need of the hour. The Himalayan Times.
26. TOV (2019) Agricultural Extension in South Asia (AESA) Taking Stock and Shaping the Future: Conversations on Extension.
27. White DR (2004) A Student's Guide to Statistics for Analysis of Cross Tabulations. ResearchGate 14(2): 179-193.
28. Purushothaman C, Kavaskar M, Reddy YA, Kanagasabapathi K (2003) Role of Mass Media in Agriculture.

DOI: 10.19080/ARTOAJ.2023.27.556377

How to cite this article: Saurabh Bastakoti, Mahesh Jaishi and Anupa Gaire. Information Sources for Off-Season Vegetables Farmers in Nepal: A Study in Thaha Municipality, Makwanpur. Agri Res & Tech: Open Access J. 2023; 27 (4): 556377. DOI: 10.19080/ARTOAJ.2023.27.556377