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### To What Extent Do Media Channels Serve as A Source of Agricultural Information for Vegetable Growers in Saudi Arabia?

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#### ABSTRACT

This study aims mainly at studying the degree of which vegetable farmers in Al-Kharj Governorate in the Kingdom of Saudi Arabia make use of the media in obtaining agricultural information and identifying the problems and obstacles that limit their use of the media in obtaining agricultural information. Study the nature of the correlational relationship between the personal, social, and economic characteristics of vegetable farmers in Al-Kharj governorate as independent variables and the degree of which farmers benefit from the media in obtaining agricultural information. and collect data through a questionnaire that meets the requirements, including 112 respondents represent 86.2% of the total target sample. The results showed that most of the surveyed farmers fall into the average degree of benefit, and the improved seeds ranked first, followed by pesticides, fertilizers, weather data, irrigation methods, and equipment, with an average of 2.8 degrees for each, and storage transactions, marketing of agricultural products and their prices with an average arithmetic mean The capacity of 2.5 and 2.4 degrees each respectively. It turns out that the most important problems that limit the farmers' benefit from agricultural information provided through the media are the lack of specialized agricultural programs in the media, the inadequate times of presenting agricultural information materials in the media, and the media provides simple and incomplete information, as it ranked first. Respectively, the lack of confidence in the information provided by the media was one of the last problems for farmers.

**Keyword :** learning innovation practices

#### INTRODUCTION AND RESEARCH PROBLEM

The media is one of the important tools that contribute to the spread of agricultural innovations, by providing modern agricultural programs for farmers, whether they are visible, read or audible. The media work to raise and excite the guided audience in receiving the agricultural information sent to them as a result of using more than one sense in the field. The learning process, individuals remember 10% of the things they hear about, 50% of the things they see, and 90% of the things that depend on hearing, vision, and action at the same time (Jasim, 2011). The media also plays an important role in changing and influencing farmers, as it is a tool for future change, and it is the cornerstone in developing many aspects of rural life by encouraging the individual to express his opinion and defend his right, shed light on wrong practices, and spread agricultural innovations on time to The largest possible segment of farmers, and on the other hand, we find that the agricultural media plays the role of agricultural guide through the agricultural news and information it provides to workers in the agricultural field, including farmers, animal breeders and birds (Abbas, 2010). The mass media, especially television, contribute to providing farmers with many diverse skills, including those related to agricultural operations, rural manufacturing, home life and storage, and various developmental activities. They also contribute to positively modifying trends towards development and change, and then the speed of individuals' acceptance of innovations. Thus, increasing production and moving towards achieving food

security, and assisting the individual in the process of making farm decisions (Shalabi, 2014). Obaid (2006) concluded that the benefit of farmers in Kassala State, Republic of the Sudan, from agricultural programs was great, and farmers prefer to follow information related to pest and disease resistance, improved seeds and irrigation, and their interest in following information related to fertilizers and harvesting is less. While Abdel Ghaffar and Mousa (2012) concluded that the degree to which farmers in Gharbia Governorate in the Republic of Egypt have benefited from the agricultural programs in the Central Delta Radio in some agricultural and development fields were ranked in descending order according to the arithmetic mean as follows: the field of plant production, the field of animal production, the field of preserving the environment and natural resources, The field of rural family development.

It was conducted Ariyo *et al.*, (2013) a study assessing the role of the media in spreading agricultural technology among farmers in Kaduna state, Nigeria. The results of the study showed that the respondents had a different degree of access to radio, television, telephone, the Internet, newspapers and pamphlets, and it was found that radio is more accessible to agricultural information, and the study also revealed that 90.7% of the respondents assert that the media is effective in spreading agricultural technologies, as it was found Ango *et al.* (2013) indicated that most farmers obtained agricultural information through agricultural radio programs (97.8%), and some of them obtained agricultural information by an agricultural expert or

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workers in agricultural extension, and the results also revealed that farmers adopted the information that was published through the radio, which has been found to be highly relevant to farmers' agricultural activities and farmers have acquired knowledge of agricultural management practices, prevention of post-harvest losses, and appropriate application of fertilizers. The study recommended the need to improve agricultural information programs for farmers through radio and rural agricultural radio stations in villages in order to spread and educate farmers in improving agricultural practices. The results of Shuwa *et al.*, (2015) showed that radio is a good source of information, and it is considered the best way to provide farmers with agricultural information, and recommended the need to provide adequate support for extension institutions and the establishment of radio stations in rural areas. In view of the scarcity of previous studies at the local level that deal with the degree to which farmers have benefited from the media, the study was applied to Al-Kharj farmers in the Kingdom of Saudi Arabia to ascertain the role that the media play in disseminating agricultural information and the agricultural benefit from it, which in turn will establish an information base in this field. It will open the way for other similar studies and also for building extension agricultural programs targeted by the media.

#### **This research aims**

**This research aims: mainly at studying the degree of which vegetable growers in Al-Kharj Governorate, in the Kingdom of Saudi Arabia, benefit from the media in obtaining agricultural information through the following sub-objectives:**

- 1- Identifying the degree of which farmers in Al-Kharj Governorate, in the Kingdom of Saudi Arabia, make use of the media in order to obtain agricultural information.
- 2 - Identifying the problems and obstacles that limit the use of the media in obtaining agricultural information.
- 3- Study the nature of the correlational relationship between the personal, social and economic characteristics of vegetable farmers in Al-Kharj governorate as independent variables and the degree to which farmers benefit from the media in obtaining agricultural information.

## **MATERIALS AND METHODS**

This research was conducted on the 2600 vegetable farmers in Al-Kharj Governorate in the Kingdom of Saudi Arabia (Ministry of Environment, Water and Agriculture, 2017 AD). The field data were collected by a questionnaire from (130) farmers representing 5% of the total, after verifying the validity of the tool. The study showed that it has constructive validity that can be relied upon in field application, and it has a high degree of stability, as the value of Cronbach's Alpha was 0.94, and the Statistical Package for Social Sciences (SPSS) "version 20" was used in the analysis.

## **RESULTS AND DISCUSSION**

### **First: The personal, social and economic characteristics of the farmers**

The ages of the farmers studied in the target sample ranged between (28 and 73 years), according to Table (1) it is clear that most of the farmers studied fall into the age

group (51 years and over). As their percentage reached 40.2% of the total number of farmers in the sample, followed by those with ages (from 40 years to 50 years) at a rate of 32.1%, while the percentage of young people (less than 40 years) reached 27.7% of the total number of farmers surveyed. The percentage of people over 50 years of age may have a negative impact on the degree of dependence on the media, as this age group may be less receptive to everything new, and as for the educational level of the farmer, it was noticed that the educational level of the researched farmers increased; As the percentage of those with university and postgraduate education reached 33.8%, and that 25.9% hold a high school diploma, and the percentage of those with intermediate and elementary degrees reached 34%, while only 6.3% of the surveyed farmers were illiterate. Media that have a major role in spreading agricultural innovations. The results also show that most of the surveyed farmers do not consider agriculture their main occupation, as they accounted for 77.7% distributed among employees in the public and private sectors, while 22.3% represent their main occupation, and the researcher expects that this matter may have a negative impact on relying on the media to publish Agricultural innovations due to the remoteness of most farmers from their farms and their preoccupation with their main work, which may affect their knowledge of the problems and needs of their farms, and this is consistent with the study of Al-Khubaizy (2015), where the researcher found that most of the farmers surveyed do not consider agriculture their main profession, which may have a negative impact on using the phone as a guideline due to the farmers' remoteness from their farms and their preoccupation with their main work. As for income, it was found that the percentage of those with income that ranged between (100,000 riyals to less than 200,000 riyals) is the highest in terms of income, as their percentage reached 36.6%, followed by those with income (Less than 100,000 riyals (33% of the total), followed by those with income (from 200,000 riyals to less than 300,000 riyals) with a percentage of 24.1%, and those with high agricultural income (from 300,000 riyals or more), their percentage reached 6.3%. The surveyed farmers, through the results, it is clear that the majority of farmers have low incomes. The researcher expects that it may negatively affect the farmers' dependence on the media in spreading agricultural innovations. The results in the same table show that most of the farmers practice their agricultural activities on their own property, reaching 66.1%, and 13.4% of the surveyed farmers are renters, while 20.5% work in a partnership system, and it is expected that the increase in the percentage of owners of farm holdings will increase the degree of dependence of farmers on the media that have a role in spreading agricultural innovations because they are more interested in their holdings and more aware of everything new, which will contribute to the increase and improvement of their agricultural products. It was found that 38.4% of the surveyed farmers hold less than 11 hectares, and 34.4% have medium holdings (11 hectares to 20 hectares), while 26.8% of them have large holdings (20 hectares or more).

The number of years of experience of the surveyed farmers in agricultural work ranged between (1-50) years, and it is evident from the results in Table (1) that 40.2% of

the subjects transplanted have moderate experience that ranged between (15- less than 30) years, and that the rate is 36.6%. With low experience (less than 15 years), while 23.2% of those with significant experience in their agricultural work are more than 30 years, through the results, we find high years of experience among more than half of the surveyed farmers who have more than 15 years of experience, and thus it is expected The researcher should have high experience less use of the media and less benefit from it due to the accumulation of their experiences.

**Table 1. Distribution of the surveyed farmers according to personal, economic and social characteristics.**

Adjective	%	Adjective	%
Age		Farm tenure	
Less than 40 years old	27.7	Privately owned	66.1
From 40 to 50 years old	32.1	Rent	13.4
51 years and over	40.2	partnership	20.5
Educational Status		Farm tenure	
Uneducated (mom)	6.3	Less than 11 hectares	38.4
primary	17	11 hectares to 20 hectares	34.8
Average	21	21 hectares or more	26.8
secondary	25.9	Annual income from the farm	
Higher	33.8	Less than 100,000 riyals	33.0
The main occupation		100,000 riyals for less than 200,000 riyals	36.6
Only cultivation	22.3	200,000 riyals for less than 300,000 riyals	24.1
Governmental sector	46.4	300,000 riyals or more	6.3
Private sector	31.3	Years of experience in agricultural work	
Less than 15 years old 36.6			
15 years for less than 30 years 40.2			
30 years or more 23.2			

**Table 2. The degree of utilization of the media to obtain agricultural information related to some agricultural practices**

Level of benefit	High	Medium	Weak	There is no	SMA	standard deviation
Agricultural practices	%	%	%	%		
Improved seeds	7.1	65.2	25.9	1.8	2.8	0.59
Fertilizers	11.6	59.8	26.8	1.8	2.8	0.65
Weather data	11.6	59.8	26.8	1.8	2.8	0.56
Irrigation methods and equipment	11.6	59.8	26.8	1.8	2.8	0.65
Pesticides	7.1	63.4	27.7	1.8	2.8	0.60
Modern agricultural machinery	13.4	55.4	29.5	1.8	2.8	0.68
Productive practices	8.9	59.8	29.5	1.8	2.7	0.63
Agricultural policies and legislation	4.5	60.7	33	1.8	2.6	0.58
Post-harvest transactions and storage	1.8	58	36.6	3.6	2.5	0.59
Marketing of agricultural products and their prices	0	51.8	44.6	3.6	2.4	0.56

**Third: The relationship between personal, economic and social characteristics as independent variables and the extent of benefit and use of the media as a dependent variable**

To clarify the correlation between the independent variables studied (age, educational level, average annual income, size of holding, agricultural experience, trend towards modernization) and the degree of utilization of the media in obtaining agricultural information from it as a dependent variable, the simple correlation coefficient was used by berson to clarify the correlation relationship. Between the independent and dependent variables.

The results, Table (3), showed the existence of a positive and significant correlation at a level of 0.01 between the educational level of the respondents as an independent variable and the agricultural utilization of the media as a dependent variable, where the correlation coefficient reached 0.47. His benefit from the media, as Mansour (2007) confirms that there is a high moral relationship between the

**Second: Making use of the media in obtaining agricultural information**

The data presented in Table (2) show that more than half of the surveyed farmers are moderately benefiting from the media in obtaining agricultural information related to some agricultural practices, and the improved seeds came first as the most agricultural practices that were used by the media regarding them, in terms of their percentage. (72.3%), and in second place came weather data, fertilizers, irrigation methods and equipment, at a rate (71.2%), and in third place came pesticides with (70.5%), and modern agricultural machinery came in fourth place with (68.8%), and fifth place came Productive practices by (68.7%), and in sixth place came Agricultural policies and legislation came with (65.2%), while the lowest agricultural practices were post-harvest and storage transactions and ranked seventh with (59.8%), followed by marketing of agricultural products and their prices as the lowest agricultural practices. Including (51.8%) in the eighth and last place.

These agricultural values came in line with the concerns of the farmer with regard to agricultural practices, and it is noticed that more than half of the farmers believe that the media contributed to increasing their agricultural awareness and achieved benefit in the field of all the mentioned agricultural practices except for post-harvest transactions and storage, marketing of agricultural products and their prices. Farmers in this field through the media may be low compared to other practices.

educational level and the extent of watching agricultural TV programs.

And the existence of a positive and significant correlation relationship at a level of 0.01 between the trend towards agricultural modernization of farmers, who were surveyed as an independent variable, and the agricultural utilization of the media as a dependent variable, where the correlation coefficient reached 0.3 and this positive relationship between the trend of farmers towards agricultural modernization and agricultural utilization of the media is due to the fact that whenever The increased orientation of the surveyed farmers towards agricultural modernization, the more they benefited from the mass media. The Thomas *et al.* (2016) that farmers have a variety of sources to obtain agricultural information, such as the Internet, and social media, and the majority of farmers tend to use the media to search for agricultural information and learn about everything new.

It was also found that there is an inverse and moral correlation at a level of 0.01 between age and agricultural

benefit, where the correlation coefficient reached -0.42, and this inverse relationship between age and agricultural benefit is due to the fact that the smaller the age of the farmers, the greater their benefit from the media, and this is consistent with Obaid's study ( 2006) on the effectiveness of mass communication methods in agricultural development, where the researcher found that farmers under the age of 45 are able to learn new, and are expected to accept, respond and adopt modern innovations, as the ability to learn decreases after the age of 45 years.

It was found that there is an inverse and significant correlation at the level of 0.01 significant between the size of farmers' possession as an independent variable and the agricultural utilization of the media as a dependent variable, where the correlation coefficient reached -0.28, and this inverse relationship between the size of the holding and the agricultural utilization of the media is due to the fact that the smaller the size of farmers's possession Respondents increased their interest and exposure to the media out of their keenness to obtain agricultural information and access to new ideas that could be applied to develop their agriculture and increase production. They took advantage of the media to obtain agricultural information.

And the existence of an inverse and moral correlation at a level of 0.01 between the agricultural experience of the surveyed farmers and the agricultural benefit from the media, where the correlation coefficient reached -0.46, and this inverse relationship between agricultural experience and agricultural benefit from the media is due to the fact that the less agricultural experience of the surveyed farmers, the greater his benefit from the means. According to this result, a difference is observed between the surveyed Al-Kharj farmers and those in Pakistan, which were addressed by Aldosari *et al.* (2017) of the study where the researcher found that the farmers' high experience does not have an influential relationship with the use of the media. It was also found that there is a non-significant inverse relationship between the annual income rate as an independent variable and agricultural utilization from the media, where the correlation coefficient reached -0.026, and this inverse relationship between the annual income rate and agricultural benefit from the media is due to the fact that the lower the income of the researched farmer, the less he will benefit from the media.

**Table 3. The relationship between personal, social and economic characteristics as independent variables and the extent of benefit and use of the media as a dependent variable**

Dependent variable Independent variables	Agricultural utilization of the media	
	Correlation coefficient value	The level of significance
Age	-0.42	0.00**
Educational level	0.47	0.00**
Average annual income	-0.026	0.78
The size of the holding	-0.28	0.00**
Agricultural experience	-0.46	0.00**
The trend towards modernization	0.3	0.001**

**Fourth: The relationship between the respondents' reliance on the media to obtain agricultural information and benefit from it**

By studying the relationship between the respondents' dependence on the media in obtaining agricultural information and benefiting from it, it becomes

clear from Table (4) that the value of the chi-square for YouTube programs reached 34.19 at the function level = 0.00, meaning that there is a significant relationship between obtaining agricultural information from YouTube and the degree of utilization from it. In addition, the Chi square value for television programs was 13.26 at the function level = 0.01, which is a value less than 0.05. Therefore, there is a significant relationship between the respondents' dependence on television programs in obtaining agricultural information and the degree of use of it. This is in agreement with the study of Abubakar *et al.* (2009) where the researcher found that the source of agricultural information for farmers was through television, and most of the respondents indicated that traditional media are the source of agricultural information for them, while there is no significant relationship between obtaining agricultural information from the following media (daily press - magazines and extension pamphlets) - Internet sites for agricultural companies and organizations - Facebook - Twitter - WhatsApp) and the degree of benefit from them, and in light of the results obtained, it is preferable to present agricultural information through audiovisual media, whether on television or via the Internet through YouTube, because of the positive results they have shown in the impact. On the surveyed farmers.

**Table 4. The relationship between the respondents' reliance on the media in obtaining agricultural information and benefiting from it**

The media	Chi-Square	significance level
TV programs	13.26	0.01*
The Daily Press	8.02	0.09
Magazines and flyers	1.48	0.83
Internet sites for companies, agricultural organizations and others	1.80	0.77
Facebook	1.32	0.51
Twitter	0.10	0.95
WhatsApp	2.70	0.60
YouTube	34.19	0.00**

**Fifthly: The most important problems that limit the farmers' benefit from agricultural information provided through the media**

There are many problems that the respondents may face, and it has been shown in Table (5) that the arithmetic average ranged from (2.6) to (2.1) on the triple scale, and ten problems have been developed and will be listed according to the arithmetic average and were as follows: The absence of agricultural programs Specialized in the media with an average arithmetic ability (2.6), and the inappropriateness of the times of presenting agricultural information materials in the media. My account (2.4), and the media does not help in the interaction between me and the provider of the agricultural information material, and the lack of access to the information in a timely manner came with an average arithmetic of equal capacity (2.3), and the information provided through the media is a theory difficult to implement and the multiplicity and contradiction of the information provided by More than one media authority and the difficulty in obtaining agricultural information in the media and social networking sites, these problems came in equal proportions, with an arithmetic average of (2.2), and the lack of confidence in the information provided by the media came in brotherly rank. It has an arithmetic mean of ability (2.1), as the arithmetic mean of all problems is more than two degrees, and this means that all problems are of great importance.

**Table 5. Distribution of respondents according to the problems that limit the use of agricultural information provided through the media**

The extent of approval of the problems	agree %	Somehow agree %	not agree %	SMA	standard deviation
The lack of agricultural programs specialized in the media	59.8	40.2	0	2.6	0.49
Inadequate times for presenting agricultural information materials in the media	52.7	46.4	0.9	2.5	0.51
The media present simple, incomplete information	50	49.1	0.9	2.5	0.51
The media does not provide information that matches the needs of the farmers	48.2	47.3	4.5	2.4	0.58
The media does not help with the interaction between me and the presenter of the agricultural information material	30.4	67.9	1.8	2.3	0.49
Failure to obtain information in a timely manner	31.3	66.1	2.7	2.3	0.50
The information provided through the media theory is difficult to apply	33	61.6	5.4	2.2	0.55
Multiple and conflicting information provided by more than one media outlet	30.4	62.5	7.1	2.2	0.56
Difficulty obtaining agricultural information in the media and social networking sites	32.1	61.6	6.3	2.2	0.56
Distrust of information provided by the media	29.5	58.9	11.6	2.1	0.61

### RECOMMENDATIONS

- 1- Creating specialized agricultural programs that will be broadcasted through the media, considering the selection of the appropriate time, so that they are presented in a simple, smooth and complete manner that includes all aspects of the problems that the farmer needs to develop his knowledge about.
- 2- Finding Saudi agricultural channels that provide television programs on an ongoing basis in the agricultural field, especially agricultural innovations and solutions to their various problems.
- 3- The extension authorities should create WhatsApp groups that include farmers, each according to his activity and interests, so that various agricultural information is provided through these groups, provided that it is accurate and supervised by specialists.
- 4- Paying attention to recording video clips of agricultural operations and broadcasting them via YouTube and through TV channels, considering the publication of these clips through the WhatsApp groups established by the Agricultural Extension Department.

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skills, including those related to agricultural operations, rural manufacturing, home life and storage, and various developmental activities. They also contribute to positively modifying trends towards development and change, and then the speed of individuals' acceptance of innovations. Thus, increasing production and moving towards achieving food security, and assisting the individual in the process of making farm decisions (Shalabi, 2014). Obaid (2006) concluded that the benefit of farmers in Kassala State, Republic of the Sudan, from agricultural programs was great, and farmers prefer to follow information related to pest and disease resistance, improved seeds and irrigation, and their interest in following information related to fertilizers and harvesting is less. While Abdel Ghaffar and Mousa (2012) concluded that the degree to which farmers in Gharbia Governorate in the Republic of Egypt have benefited from the agricultural programs in the Central Delta Radio in some agricultural and development fields were ranked in descending order according to the arithmetic mean as follows: the field of plant production, the field of animal production, the field of preserving the environment and natural resources, The field of rural family development.

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extension institutions and the establishment of radio stations in rural areas. In view of the scarcity of previous studies at the local level that deal with the degree to which farmers have benefited from the media, the study was applied to Al-Kharj farmers in the Kingdom of Saudi Arabia to ascertain the role that the media play in disseminating agricultural information and the agricultural benefit from it, which in turn will establish an information base in this field. It will open the way for other similar studies and also for building extension agricultural programs targeted by the media.

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## إلى أي مدى تعمل القنوات الإعلامية كمصدر للمعلومات الزراعية لمزارعي الخضار في المملكة العربية السعودية؟

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### الملخص

استهدف هذه البحث بصفة أساسية التعرف على درجة استفادة مزارعي الخضار من وسائل الإعلام في الحصول على المعلومات الزراعية بمحافظة الخرج بالمملكة العربية السعودية، والتعرف على المشاكل والمعوقات التي تحد من استفادتهم من وسائل الإعلام في الحصول على المعلومات الزراعية. تحديد العلاقة بين كل من الخصائص الشخصية والاجتماعية والاقتصادية كمتغيرات مستقلة مدروسة وبين درجة استفادة المزارع من وسائل الإعلام في الحصول على المعلومات الزراعية؛ وقد تم جمع البيانات من خلال استمارة استبيان كان المستوفية للشروط منها 112 استبانة تمثل ما نسبته 86.2% من إجمالي العينة المستهدفة. وظهرت أهم نتائج البحث ما يلي معظم المزارع المبحوثين يقعون في درجة الاستفادة المتوسطة واحتلت البذور المحسنة المرتبة الأولى يليها المبيدات، والأسمدة، وبيانات الطقس وطرق ومعدات الري بمتوسط حسابي بلغ 2.8 درجة لكل منها، وكان في آخر الترتيب معاملات ما بعد الحصاد والتخزين، تسويق المنتجات الزراعية وأسعارها بمتوسط حسابي قدرة 2.5 و2.4 درجة لكل منها على التوالي؛ وتبين أن أهم المشكلات التي تحد من استفادة المزارع من المعلومات الزراعية المقدمة من خلال وسائل الإعلام هو عدم وجود برامج زراعية متخصصة في وسائل الإعلام، وعدم مناسبة أوقات تقديم المواد الإعلامية الزراعية في وسائل الإعلام، وتقدم وسائل الإعلام معلومات بسيطة غير مكتملة، حيث احتلت المراتب الأولى على الترتيب، بينما عدم الثقة في المعلومات التي تقدمها وسائل الإعلام احتلت آخر المشكلات بالنسبة للمزارع.

**الكلمات الدالة:** الاستفادة، المعلومات، الممارسات، الابتكار