THE ROLE OF MASS COMMUNICATION IN RURAL DEVELOPMENT: PERSPECTIVES OF AGRICULTURAL EMPLOYEES IN THE DIRECTORATE OF AGRICULTURAL EXTENSION AND TRAINING, BAGHDAD GOVERNORATE

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ABSTRACT

This study was aimed to identify the role of mass communication media in achieving rural development from the perspective of agricultural employees in the Directorate of Agricultural Extension and Training in Baghdad Governorate in general, as well as to determine the role of each mass communication medium in achieving rural development. In addition, the study sought to examine the variation in respondents' perspectives regarding the role of mass communication in achieving rural development according to personal variables represented by (sex, number of years of service, training in rural development, and sources of information on rural development). A questionnaire was developed consisting of two parts. The first part included a set of independent variables related to the respondents, while the second part comprised (60) statements, each representing the role of mass communication media in achieving rural development. These statements were distributed across five domains: the social, economic, educational, health, and political domains.

The research population included all agricultural employees working in the Directorate of Agricultural Extension and Training in Baghdad Governorate and its related extension farms, in total of 103 employees. A sample of 30 employees was selected as an exploratory sample, and a total of 73 respondents included in the research procedures.

The results indicated that the role of mass communication in achieving rural development, from the perspective of the respondents, was moderate to low. The results also revealed significant differences in respondents' views regarding the role of mass communication in rural development according to some of the respondents' personal characteristics, namely (sex, number of years of service, training in rural development, and sources of information on rural development).

ISSN 2072-3857

The study concluded that there is a need to activate the role of mass communication in achieving rural development through extension programs and the dissemination of scientific recommendations that can influence rural populations' attitudes and modify their behavior in order to achieve rural development goals within the studied domains. The study recommends giving greater attention to training agricultural extension personnel in methods of preparing extension messages and utilizing mass communication channels for their dissemination. They also recommend developing and diversifying rural development programs through the official website of the Ministry of Agriculture and its YouTube channel to reach the largest possible number of farmers. Furthermore, it is recommended to assign employees with long service experience and those involved in rural development programs to prepare specialized extension messages related to rural development and disseminate them through mass communication media.

1.

Introduction and Research Problem

Communication has gained significant importance as a key indicator for assessing a society's ability to interact with development plans and comprehend their objectives, due to its direct role in raising public awareness, enhancing acceptance of change, and motivating individuals to consciously participate in the development process [7] Communication is also considered a fundamental component in agricultural extension and among its practitioners, as it facilitates the transfer of ideas, knowledge, facts, and information between extension agents and farmers, leading to mutual understanding and effective exchange of extension messages. The success of the communication process depends on several factors, most notably the tools and methods of communication used between extension agents and farmers [19]

In recent years, modern communication tools based on information technology have emerged, significantly transforming the methods of information dissemination. These tools have been widely adopted in agricultural extension in many developed and developing countries. Consequently, the utilization of rapid advancements in information and communication technologies has contributed to improving extension work, enhancing

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its effectiveness, and providing diverse and extensive communication channels to serve the agricultural sector. This, in turn, facilitates timely information delivery, improves quality of life, and promotes rural development [14]

Within the context of rural development, mass communication has emerged as an effective tool for transferring knowledge and agricultural innovations to communities that have limited access to direct extension services. Media platforms enable the widespread dissemination of modern agricultural information and help reduce the knowledge gap between rural and urban areas. [17] emphasized that mass communication plays a crucial role in improving agricultural production and supporting rural development.

In order for agricultural extension systems to achieve their objectives, reliance on mass communication methods is essential, as individual and group methods alone cannot reach all individuals who need information. Therefore, extension systems utilize mass communication approaches to enhance awareness among their target audience. Evidence suggests that the effectiveness of mass communication methods is comparable to, and in some cases exceeds, that of individual and group methods, particularly in developed countries. For example, studies in the United States indicated that the impact of individual methods ranged between 17–18%, group methods reached 25%, while mass communication methods accounted for 38%. These proportions vary across societies depending on their specific conditions. Furthermore, agricultural extension systems can benefit from modern communication technologies to rapidly disseminate information and reach a larger number of beneficiaries, particularly those who are difficult to access through traditional methods [2] in [11].

Mass communication has also reshaped the concept of agricultural extension itself, transforming it from a geographically limited educational process into a comprehensive communication system that spans radio, television, websites, and social media platforms. This transformation reflects not only technological advancement but also a conceptual shift in understanding extension as an activity aimed at changing farmers' behavior, increasing productivity, and achieving comprehensive rural development. Recently, platforms such as WhatsApp groups and Facebook pages have evolved into interactive spaces that go beyond the traditional role of extension agents, providing collective environments for knowledge exchange. Reports by IFAD have highlighted the growing

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reliance of smallholder farmers on digital platforms to share experiences related to irrigation management and plant disease control [3].

Moreover, media has contributed to improving the efficiency of agricultural institutions—including ministries, research centers, and extension units—by facilitating the dissemination of information related to marketing, livestock vaccination campaigns, pest control programs, and planting and harvesting schedules [6]. Thus, mass communication has become a distinctive and integral component of agricultural extension systems, no longer playing a secondary or complementary role, but rather forming a fundamental part of the communication infrastructure that supports the agricultural sector and serves as a strategic tool for achieving rural development [16]

Based on the above, the idea of this study was formulated to address the following research questions:

1. What is the role of mass communication media in achieving rural development from the perspective of agricultural employees in the Directorate of Agricultural Extension and Training in Baghdad Governorate in general?
2. What is the descending order of communication media according to the role each medium plays in achieving rural development from the perspective of agricultural employees in the Directorate of Agricultural Extension and Training in Baghdad Governorate?
3. What is the descending order of the research domains according to the role of mass communication in achieving rural development from the perspective of agricultural employees in the Directorate of Agricultural Extension and Training in Baghdad Governorate?
4. Determine the variation in the role of mass communication media in achieving rural development from the perspective of agricultural employees in the Directorate of Agricultural Extension and Training in Baghdad Governorate, according to personal variables represented by (sex, number of years of service, training in rural development, and sources of information on rural development).

Research Objectives

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1. Determine the role of mass communication media in achieving rural development from the perspective of agricultural employees in the Directorate of Agricultural Extension in Baghdad Governorate in general.
2. Ranking communication media in descending order according to the role each medium plays in achieving rural development from the perspective of agricultural employees in the Directorate of Agricultural Extension and Training in Baghdad Governorate.
3. Ranking the research domains in descending order according to the role of mass communication in achieving rural development from the perspective of agricultural employees in the Directorate of Agricultural Extension and Training in Baghdad Governorate.
4. Identifying variations in the perceived role of mass communication media in achieving rural development from the perspective of agricultural employees in the Directorate of Agricultural Extension in Baghdad Governorate according to personal variables such as sex, years of service, training in rural development, and sources of information related to rural development.

Statistical Hypotheses

The statistical hypotheses were formulated according to the studied independent variables as follows:

1. There are no statistically significant differences in the role of mass communication in achieving rural development from the perspective of agricultural employees in the Directorate of Agricultural Extension in Baghdad Governorate according to sex.
2. There are no statistically significant differences in the role of mass communication in achieving rural development from the perspective of agricultural employees in the Directorate of Agricultural Extension in Baghdad Governorate according to years of service.
3. There are no statistically significant differences in the role of mass communication in achieving rural development from the perspective of agricultural employees in the Directorate of Agricultural Extension in Baghdad Governorate according to

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training in the field of rural development.

4. There are no statistically significant differences in the role of mass communication in achieving rural development from the perspective of agricultural employees in the Directorate of Agricultural Extension in Baghdad Governorate according to sources of information related to rural development.

Operational Definitions

1. **Mass Communication:** The communication process through which the extension agent communicates with an unlimited number of beneficiaries using mass communication media including radio, television, extension publications, or websites.
2. **Rural Development:** The process of building and improving rural communities based on a set of foundations aimed at advancing rural areas in various fields such as education, healthcare, and infrastructure.
3. **Agricultural employees:** All agricultural personnel working in the Directorate of Agricultural Extension and Training and its affiliated extension stations in Baghdad Governorate who hold an academic qualification in agriculture.
4. **Websites:** All online platforms available on the internet through which farmers obtain information related to rural development, including WhatsApp, YouTube, and Facebook

Materials and Methods

1. Research Methodology

The descriptive approach was adopted to achieve the objectives of this study. This method enables to convert the findings into numerical values that represent the characteristics of the studied phenomenon. It also provides factual information that helps interpret the human and social phenomena under investigation . [5]

2. Study Area

The Directorate of Agricultural Extension and Training of the Iraqi Ministry of Agriculture in Baghdad was selected as the study area. This directorate is responsible for planning and implementing extension and training programs aimed at developing the agricultural sector and transferring modern technologies to increase agricultural production and improve the living standards of rural populations. The directorate includes two centers (an extension center and a training center) and two farms (Al-Tarmiyah Farm and Al-Rashidiyah Farm). Due to the importance of mass communication in extension work and its role in achieving rural development, and because no previous study—according to the

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researcher's knowledge—has examined the role of mass communication in achieving rural development within this directorate, it was selected as the study area.

3. Research Population

The study population is defined as the set of units to be studied that share a common characteristic to be analyzed, and it is essential that the statistical population be precisely defined [18]. Accordingly, the study population included all agricultural employees working in the Directorate of Agricultural Extension and Training in Baghdad Governorate who hold an academic qualification in agriculture, totaling (103) employees distributed across the directorate headquarters, centers, and affiliated farms, as shown in Table (1).

Table (1): Research Population and Sample

No.	Department / Unit	Total Population	Pilot Sample	Research Sample
1	Directorate of Agricultural Extension and Training (Headquarters)	82	25	57
2	Training Center	3	–	3
3	Extension Center	5	1	4
4	Al-Tarmiyah Farm	6	2	4
5	Al-Rashidiyah Farm	7	2	5
Total		**103**	**30**	**73**

Reference: Data obtained from the Directorate of Agricultural Extension and Training, Baghdad Governorate (2025).

4. Research tools

To achieve the objectives of the study, the researcher relied on various sources to develop the preliminary framework of the research instrument. A questionnaire was used, as it is considered one of the important tools for obtaining accurate information related to the conditions and reality of the phenomenon under study [1].After reviewing the literature, previous studies, and conducting personal interviews with specialists, as well as examining research related to the current study, the questionnaire was designed in two parts as follows:

Section One:

This section included a number of

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questions aimed at obtaining data related to the independent variables associated with the respondents, which were: sex, years of service, training in the field of rural development, and sources of information related to rural development.

Section Two:
This section included a preliminary scale consisting of 60 items distributed across five domains, as shown in Table (2).

Table (2): Research Domains

No.	Domain	Number of Items
1	Social Domain	14
2	Economic Domain	14
3	Educational Domain	10
4	Health Domain	11
5	Political Domain	11
Total		**60**

5. Stability and Validity Measurement

The split-half method was used to determine the correlation coefficient between the odd-numbered and even-numbered items. The correlation coefficient was 0.72, representing the reliability for half of the scale. To obtain the reliability coefficient for the entire scale, the Spearman–Brown correction formula was applied, resulting in an overall reliability coefficient of 0.84, which is considered scientifically acceptable. Reliability coefficients exceeding 0.70 are generally regarded as acceptable [15]

To determine the validity of the scale, the square root of the reliability coefficient was calculated, yielding a validity coefficient of 0.91, which is also considered acceptable. Accordingly, the questionnaire became suitable for the final stage of data collection.

6. Measurement of Independent Variables

The independent variables were measured as follows:

1. **Sex:** Measured using two categories (male, female), which were assigned the numerical values (1, 2) respectively.
2. **Years of Service:** Measured by the total number of years the employee had spent in their job.
3. **Training in Rural Development:** Measured using the categories (trained, not trained), assigned the numerical values (1, 0) respectively.

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4. **Sources of Information on Rural Development:** This variable was measured through **six possible sources** from which respondents could obtain information related to rural development. The response alternatives were (often, sometimes, rarely, not obtained), assigned the values (3, 2, 1, 0) respectively. Thus, the total scores that each respondent could obtain ranged from 0 to 18.

7. Measurement of the Dependent Variable

The role of mass communication in achieving rural development, from the perspective of agricultural employees, was measured using a scale consisting of 60 items distributed across the research domains. Each item was provided with the response alternatives (high, medium, low), which were assigned the values (3, 2, 1) respectively. Accordingly, the scores representing the role of each communication medium in achieving rural development ranged between 60 and 180 points, while the total score representing the role of all mass communication media ranged between 240 and 720 points.

8. Statistical Methods

Statistical analysis was conducted using the Statistical Package for the Social Sciences (SPSS). Several statistical techniques were employed, including range, frequency distribution, arithmetic mean, and one-way analysis of variance (ANOVA).

RESULTS AND DISCUSSION

Objective 1: Determining the Role of Mass Communication Media in Achieving Rural Development from the Perspective of Agricultural Employees in the Directorate of Agricultural Extension in Baghdad Governorate (Overall).

The results indicated that the values representing the role of mass communication media in achieving rural development, from the perspective of agricultural employees in the Directorate of Agricultural Extension and Training in Baghdad Governorate, ranged between 438 and 657, with a mean of 542.02 and a standard deviation of 63.068. The respondents were classified according to the range into three categories, as shown in Table (3).

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Table (3): Distribution of Respondents According to the Role of Mass Communication Media in Achieving Rural Development

No.	Category	Frequency	Percentage (%)	Mean Score
1	Low (438–510)	24	32.88	468.70
2	Medium (511–583)	26	35.62	544.18
3	High (584 and above)	23	31.50	616.13
	Total	**73**	**100%**	

Table (3) revealed that the highest proportion of respondents fell within the moderate category, accounting for (35.62%), followed by the low category at (32.88%). Accordingly, the role of mass communication media in achieving rural development, from the perspective of agricultural employees in the Directorate of Agricultural Extension and Training in Baghdad Governorate, can be described as moderate to low.

This may be attributed to the limited number of development-oriented programs broadcast by governmental mass communication channels, as well as the emphasis on entertainment content and political activities disseminated through locally funded media outlets. In addition, insufficient attention is given to programs aimed at developing rural communities and enabling them to play a meaningful role in national development. This is further compounded by the scarcity of extension publications designed to influence rural behavior and keep pace with technological advancements in agriculture.

Objective 2: Ranking Mass Communication Media in Descending Order According to Their Role in Achieving Rural Development from the Perspective of Agricultural Employees in the Directorate of Agricultural Extension and Training in Baghdad Governorate.

The role of mass communication media in achieving rural development was ranked in descending order according to the arithmetic mean for each medium, as shown in Table (4).

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Table (4): Descending Ranking of Mass Communication Media

No.	Medium	Mean	Rank
1	Websites	157.21	1
2	Television	147.10	2
3	Radio	120.12	3
4	Printed Publications	117.59	4

Table (4) indicates that websites ranked first in contributing to rural development from the respondents' perspective. This may be due to the increasing reliance of institutions and organizations working in rural areas on websites and digital platforms to disseminate social, agricultural, and health-related information, which has contributed to changes in rural behavior. In contrast, printed publications ranked last, which may be attributed to the limited availability of publications specifically directed toward rural communities, thereby reducing their effectiveness in supporting rural development.

Objective 3: Ranking the Research Domains in Descending Order According to the Role of Mass Communication Media in Achieving Rural Development from the Perspective of Agricultural Employees in the Directorate of Agricultural Extension in Baghdad Governorate

The research domains were ranked according to their arithmetic means, and the results are presented in Table (5).

Table (5): Ranking of Research Domains in Descending Order According to the Arithmetic Mean

No.	Field	Mean	Rank
1	Economic	130.00	1
2	Social	119.10	2
3	Healthy	99.92	3
4	Political	98.85	4
5	Educational	94.15	5

Table (5) indicates that the economic domain ranked first in terms of the role of mass communication media, from the perspective of agricultural employees in the Directorate of Agricultural Extension and Training in Baghdad Governorate. This may be attributed to the fact that economic growth and improving the living standards of rural populations are among the primary objectives of rural development. Accordingly, government and development organizations tend to focus on the economic aspect by broadcasting programs through mass communication channels to reach the largest possible number of rural residents.

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In contrast, the educational domain ranked last. This may be due to the responsibility of the Ministry of Education for improving educational levels in rural areas through schools, formal curricula, and adult literacy programs. In addition, extension activities implemented in rural areas through individual and group communication channels further reduce the reliance on mass communication in this domain, resulting in its relatively limited role.

Objective 4: Identifying Variations in the Role of Mass Communication Media in Achieving Rural Development from the Perspective of Agricultural Employees in the Directorate of Agricultural Extension in Baghdad Governorate According to Personal Variables

1. Sex

Respondents were categorized into two groups according to Sex. The results indicated that males obtained a higher mean score than females. To test the significance of the difference between the means of the two groups, the t-test was applied. The results are presented in Table (6).

Table (6): Results of the t-test According to Sex

Sex	Frequency	Percentage (%)	Arithmetic Mean	t-value	p-value	Statistical Significance
Male	47	64.38	548.71	1.233	0.223	Not Significant
Female	26	35.62	529.94			
Total	73	100%				

Table (6) shows that the p-value is greater than 0.05 (p = 0.223). Therefore, the statistical hypothesis stating that there are no statistically significant differences in the role of mass communication in rural development from the perspective of agricultural employees in the Directorate of Agricultural Extension and Training in Baghdad Governorate according to Sex is accepted.

2. Years of Service

The values representing the employees' years of service ranged between 3 and 34 years. Respondents were classified into three categories

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according to the range .To determine the significance of the differences between the mean scores of these categories, one-way analysis of variance (ANOVA) was applied. The results are presented in Table (7).

Table (7): Results of ANOVA According to Years of Service Categories

Years of Service Category	Frequency	Percentage (%)	Arithmetic Mean	F-value	p-value	Statistical Significance
Short (3–13 years)	26	35.62	513.38			
Medium (14–24 years)	28	38.36	539.17	8.762	0.000	Significant
Long (25–35 years)	19	26.02	585.42			
Total	**73**	**100%**				

Table (7) shows that $p < 0.05$ ($p = 0.000$). Therefore, the statistical hypothesis stating that there are no statistically significant differences in the role of mass communication in achieving rural development from the perspective of agricultural employees in the Directorate of Agricultural Extension and Training in Baghdad Governorate according to years of service is rejected.

To determine the source of the variance, the Least Significant Difference (LSD) test was conducted, and the results are shown in Table (8).

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Table (8): Results of the LSD Test According to Years of Service Categories

Categories Compared	Mean Difference	p-value	Significance
Short vs. Medium	25.79	0.103	Not Significant
Short vs. Long	72.04*	0.000	Significant
Medium vs. Long	46.25*	0.008	Significant

Table (8) indicates that the source of variation lies between the categories (short vs. long) and (medium vs. long), in favor of the long service category. This may be attributed to the fact that employees with longer years of service have greater awareness of past rural conditions and the changes that have occurred over time in the social, economic, and agricultural domains as a result of development programs disseminated through modern mass communication methods such as television and electronic platforms. Consequently, they are more likely to perceive the role of mass communication in transforming rural communities and achieving rural development.

3. Training in the Field of Rural Development

Respondents were classified into two groups according to their training in rural development. The results indicated that the trained group obtained a higher mean score than the untrained group. To test the significance of the differences between the means of the two groups, the t-test was applied. The results are presented in Table (9).

Table (9): Results of the t-test According to Training in Rural Development

Category	Frequency	Percentage (%)	Arithmetic Mean	t-value	p-value	Statistical Significance
Trained	50	68.49	556.52	3.065	0.004	Significant
Not Trained	23	31.51	510.51			
Total	**73**	**100%**				

ISSN 2072-3857

Table (9) shows that $p < 0.05$ ($p = 0.004$). Therefore, the statistical hypothesis stating that there are no statistically significant differences in the role of mass communication in achieving rural development from the perspective of agricultural employees in the Directorate of Agricultural Extension and Training in Baghdad Governorate according to training is rejected.

This result may be attributed to the fact that employees who have received training in rural development are more aware of the changes that have occurred in rural development as a result of development programs disseminated through mass communication media.

4. Sources of Information on Rural Development

The values representing the respondents' level of access to information sources ranged between 5 and 16. Respondents were classified into three categories according to the range. The results indicated that the high category obtained the highest mean score among the categories. To test the significance of the differences between the category means, one-way analysis of variance (ANOVA) was applied. The results are presented in Table (10).

Table (10): Results of ANOVA According to Information Source Categories

No.	Category	Frequency	Percentage (%)	Arithmetic Mean	F-value	p-value	Statistical Significance
1	Low (5–8)	5	6.85	487.20	7.220	0.001	Significant
2	Medium (9–12)	31	42.47	522.03			
3	High (13–16)	37	50.68	566.18			
	Total	**73**	**100%**				

Table (10) indicates that $p < 0.05$ ($p = 0.001$). Therefore, the statistical hypothesis stating that there are no statistically significant differences in the role of mass communication in achieving rural development from the

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perspective of agricultural employees in the Directorate of Agricultural Extension and Training in Baghdad Governorate according to sources of information related to rural development is rejected.

To identify the source of the variance, the

Least Significant Difference (LSD) test was applied. The results are shown in Table (11.(

Table (11): Results of the LSD Test According to Information Source

Table (11) shows that the source of the variance lies in the differences between the low and high categories, as well as between the medium and high categories, in favor of the high category. This may be explained by the fact that respondents who access a greater number of information sources on rural development and follow development programs disseminated through mass communication media are more aware than others of the impact of these programs on changing rural behavior and attitudes, as well as encouraging participation in rural development programs.Categories

Categories Compared	**Mean Difference**	**p-value**	**Significance**
Low vs. Medium	34.83	0.219	Not Significant
Low vs. High	78.98*	0.006	Significant
Medium vs. High	44.15*	0.003	Significant

ISSN 2072-3857

CONCLUSIONS

1- The results indicated that the role of mass communication media in rural development, from the respondents perspective, is moderate to low. This reveals the need to activate mass communication approaches within extension work, given their importance in disseminating extension messages to a large number of beneficiaries and delivering rural development programs with minimal effort and cost.

2- The results showed that internet media ranked first among mass communication tools in rural development from the respondents' perspective. This highlights the importance of training agricultural extension agents in preparing and recording extension messages and effectively disseminating them throughout the internet platforms. It also underscores the potential of digital communication channels in forming interactive networks between extension agents and farmers to share updated information that supports rural development.

3- The results revealed that the economic field ranked first among the studied domains in terms of the role of mass communication in rural development. This indicates the economic importance in achieving rural development through improving the living standards of rural populations, which in turn contributes to social transformations that support rural development.

4- The results also demonstrated the existence of significant differences in the role of mass communication in rural development according to the variables (Sex, number of years of service, training in rural development, and sources of information on rural development). This indicates the importance of taking these factors into consideration when assigning agricultural extension personnel to develop and deliver extension messages related to rural development.

RECOMMENDATIONS

1. Training personnel working in the agricultural extension system on methods of preparing extension messages, recording them, and disseminating them through electronic platforms and websites.
2. Diversifying extension programs broadcast through the Ministry of Agriculture's YouTube channel to cover various aspects of rural life in order to promote sustainable rural development.
3. Assigning agricultural extension agents who demonstrated statistically significant differences in their perception of the role of mass communication

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in achieving rural development to prepare extension messages and programs aimed at promoting rural development and disseminating them through mass communication media.

4. Diversifying sources of information related to the importance of rural development and the methods of achieving it, and utilizing local television channels to broadcast programs that raise awareness among rural populations and influence their attitudes, thereby encouraging behavioral changes that contribute to improving rural communities and achieving rural development.

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ISSN 2072-3857