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Rebuilding Agricultural Information Systems Through Climate-Smart Journalism Education: A Cross-Country Impact Assessment in the South Caucasus

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Abstract

Agricultural information systems in the South Caucasus have been shaped by institutional restructuring, media resource constraints, and limited sector-specific journalistic capacity. In this context, climate-related risks, rural livelihood vulnerabilities, and the erosion of agricultural extension mechanisms have further intensified information gaps affecting farmers and rural producers. This study assesses the impact of a cross-sectoral educational and media intervention aimed at rebuilding agricultural information systems through climate-smart journalism education in Georgia, Armenia, and Azerbaijan.

The intervention, implemented between 2023 and 2026, integrated three core components: (1) the development and institutionalization of a Climate-Smart Communication and Reporting module within journalism education; (2) capacity-building activities for journalists and regional media; and (3) the establishment of a regional media hub facilitating knowledge exchange between universities, media outlets, and rural stakeholders. To evaluate impact, three independent researchers conducted country-level studies using a unified research instrument adapted to local media ecosystems. In Georgia, data were collected through face-to-face interviews with farmers, while in Armenia and Azerbaijan online surveys were employed,

complemented in Armenia by qualitative expert interviews. The findings demonstrate that structured educational intervention in journalism can contribute to strengthening agricultural information ecosystems by enhancing media quality, improving farmers' access to practical knowledge, and fostering cross-sectoral linkages between academia, media, and rural communities. While structural constraints persist—particularly regarding institutional data access and media resource limitations—the results indicate measurable shifts in information behavior, content quality, and perceived resilience among rural producers.

The study contributes to the growing scholarship on development communication and climate-smart journalism by providing comparative empirical evidence from a post-Soviet regional context, highlighting education-based media reform as a viable pathway for rebuilding sectoral information systems.

Introduction

Agricultural information systems play a critical role in shaping rural livelihoods, climate resilience, and food security. In transitional and post-Soviet contexts, where institutional reforms, market liberalization, and political restructuring have transformed governance systems, the stability and functionality of sector-specific information ecosystems have often been disrupted. In the South Caucasus—comprising Georgia, Armenia, and Azerbaijan—agriculture remains socio-economically significant, particularly for rural communities. Yet the systems that mediate agricultural knowledge, public policy communication, and practical information dissemination have undergone fragmentation over the past decades.

From a theoretical perspective, this study draws upon three interrelated frameworks: development communication theory, media systems theory, and knowledge transfer models in agricultural extension. Development communication scholarship emphasizes the role of media not merely as information transmitters but as facilitators of participatory development, social learning, and institutional accountability (Servaes, 2008; Melkote & Steeves, 2015). In agricultural contexts, communication functions as an enabling

infrastructure—supporting behavioral change, innovation diffusion, and adaptive capacity in response to environmental and economic pressures. Rogers' (2003) diffusion of innovations theory further underscores how access to credible, context-relevant information shapes adoption patterns among farmers. However, such diffusion requires trusted intermediaries and stable communication channels.

Media systems theory adds a structural dimension, suggesting that journalistic capacity, institutional frameworks, political agenda-setting, and economic sustainability directly influence content production priorities (Hallin & Mancini, 2004). In small media markets such as those of the South Caucasus, limited financial resources, political polarization, and centralized editorial agendas tend to marginalize sectoral coverage—including agriculture and environmental reporting. Consequently, rural producers often experience information asymmetry, receiving sporadic, event-driven coverage rather than systematic, practical knowledge.

In parallel, agricultural extension literature highlights that effective knowledge transfer systems require institutional coordination between research institutions, advisory services, and communication platforms (Rivera & Sulaiman, 2009). In many post-Soviet countries, extension mechanisms have weakened or been dismantled, leaving media as one of the few remaining channels for agricultural information dissemination. Yet journalists are rarely equipped with specialized agricultural knowledge, and journalism curricula seldom integrate climate or sector-specific communication modules.

Baseline Context in 2023

When the cross-country intervention assessed in this study began in late 2023, agricultural information ecosystems across Georgia, Armenia, and Azerbaijan shared several structural characteristics, though with varying institutional configurations.

In Georgia, niche agricultural media existed, and regional broadcasters maintained local presence across the country. However, climate-smart reporting practices were not institutionalized within journalism education. A baseline mapping of journalism schools

revealed that none offered a dedicated module on climate-smart communication, and agricultural reporting was either embedded superficially within broader courses or absent entirely. Media production on agricultural issues was largely personality-driven or project-based rather than structurally integrated into editorial priorities.

In Armenia, institutional restructuring had significantly altered the agricultural governance landscape. The abolition of the Ministry of Agriculture and the dismantling of regional support centers removed focal points for policy communication and coordination. Journalists reported difficulties accessing official data, and agricultural coverage was frequently marginalized by political agenda-setting dynamics. Specialized agricultural journalism training was virtually non-existent, and rural information gaps were widely acknowledged by practitioners.

In Azerbaijan, while agricultural policy structures remained formally intact, media centralization and limited independent sectoral coverage constrained agricultural reporting. Journalistic capacity-building initiatives on climate and environmental issues were sporadic, and structured collaboration between universities, media outlets, and rural stakeholders was minimal.

Across the three countries, baseline characteristics included:

- Absence of climate-smart journalism modules in higher education;
- Limited structured cooperation between universities and media organizations;
- Scarcity of specialized agricultural journalists;
- Fragmented dissemination of practical agricultural knowledge;
- Weak cross-sectoral linkages between academia, media, and rural communities.

These conditions collectively reflected what may be termed fragile agricultural information systems—ecosystems lacking stable institutional anchoring, educational reinforcement, and coordinated knowledge transfer mechanisms.

Conceptualizing Educational Intervention as Systemic Reform

Against this backdrop, the intervention examined in this study conceptualized journalism education not merely as professional training but as structural leverage within the information ecosystem. Rather than focusing solely on short-term media production outputs, the initiative introduced a Climate-Smart Communication and Reporting module designed for integration into university curricula, coupled with journalist capacity-building and the establishment of a Regional Media Hub.

The underlying hypothesis was that strengthening agricultural information systems requires cross-sectoral integration—linking universities, media outlets, and rural stakeholders within a coordinated framework. By embedding climate-smart agricultural reporting within formal education structures, the intervention sought to generate sustainable change in journalistic practice, enhance content quality, and indirectly influence farmers' information behavior.

Importantly, this approach moves beyond traditional development communication models centered on awareness campaigns. Instead, it positions journalism education as an infrastructural reform mechanism—capable of rebuilding sector-specific information ecosystems in contexts where institutional agricultural extension services are weakened.

Research Objective

This study provides a cross-country impact assessment of that intervention, examining whether and how a structured educational and media initiative contributed to rebuilding agricultural information systems in Georgia, Armenia, and Azerbaijan. By employing a unified research instrument adapted to national media environments and combining qualitative and quantitative methods, the study offers comparative empirical insights into the systemic effects of climate-smart journalism education.

In doing so, it contributes to scholarship on development communication, media reform, and climate adaptation by

demonstrating how educational intervention can function as a stabilizing force within fragile sectoral information systems.

Research Questions

Given the structural weaknesses of agricultural information systems identified at baseline and the implementation of a cross-sectoral educational intervention between 2023 and 2026, this study addresses the following research questions:

RQ1.

How did the introduction of Climate-Smart Journalism Education influence the structure and quality of agricultural media content in Georgia, Armenia, and Azerbaijan?

RQ2.

To what extent did the intervention affect farmers' information behavior, including trust in media sources, adoption of agro-ecological practices, and perceived access to practical knowledge?

RQ3.

Did cross-sectoral collaboration between universities, media outlets, and rural stakeholders strengthen agricultural information ecosystems at the national level?

RQ4.

How did differences in institutional environments (e.g., governance structures, media systems, data accessibility) mediate the impact of the intervention across the three countries?

RQ5.

Can journalism education function as a structural reform mechanism in contexts where traditional agricultural extension systems are weakened or fragmented?

This study employs a comparative cross-country impact assessment design aimed at evaluating the systemic effects of a cross-sectoral educational and media intervention implemented between 2023 and 2026 in Georgia, Armenia, and Azerbaijan. The intervention combined

journalism education reform, professional capacity-building for practicing journalists, and the establishment of a regional media hub facilitating cooperation among universities, media outlets, and rural stakeholders.

To ensure conceptual coherence across national contexts, a unified research instrument was developed and shared with three independent country researchers. While methodological modalities varied to reflect contextual realities, the core research framework remained standardized, allowing cross-country comparability. The design integrates both quantitative and qualitative methods in order to capture structural, behavioral, and perceptual dimensions of agricultural information systems.

Data Collection Procedures

Georgia

In Georgia, data were collected through face-to-face semi-structured interviews with farmers and rural producers. The use of in-person interviews enabled deeper exploration of participants' lived experiences and facilitated contextual observation of rural environments. Interviews focused on patterns of information consumption, levels of trust in media sources, behavioral changes in agricultural practices, and perceptions of the usefulness of climate-smart media content.

The face-to-face format allowed for follow-up probing, clarification of responses, and richer qualitative insights into how information flows operate within rural communities. This approach was particularly valuable for understanding nuanced shifts in information behavior and for capturing informal knowledge networks that may not emerge in survey-based instruments.

Armenia

In Armenia, a mixed-methods approach was employed. Quantitative data were gathered through online survey questionnaires distributed to farmers and rural producers. These surveys examined media usage

patterns, trust in information sources, perceived access to agricultural knowledge, and self-reported adoption of agro-ecological practices.

In addition, qualitative expert interviews were conducted with journalists, investigative reporters, and media practitioners working in agricultural and environmental reporting. These interviews provided critical insight into structural constraints within the Armenian media system, including institutional barriers, resource limitations, and data accessibility challenges. The Armenian component therefore combines farmer-level behavioral data with system-level professional perspectives.

Azerbaijan

In Azerbaijan, data collection was conducted primarily through online surveys targeting farmers and rural producers. The questionnaire mirrored the instruments used in Georgia and Armenia, with modifications limited to national media outlet references and locally relevant information sources.

Although qualitative interviews were not conducted at the same scale as in Armenia, the Azerbaijani survey data provide comparative insight into farmers' information behavior, trust patterns, and engagement with climate-smart agricultural content within a more centralized media environment.

The research instrument was standardized across the three countries to ensure conceptual consistency. It included demographic variables, media usage patterns, trust in various information sources (including television, online platforms, social networks, and peer networks), adoption of agro-ecological and climate-smart practices, perceived impact of media content on agricultural decision-making, barriers to information access, and willingness to engage with innovative agricultural methods.

Minor contextual adjustments were introduced to reflect country-specific media ecosystems, particularly in relation to the naming of national broadcasters, digital platforms, and local agricultural information channels. These adaptations did not alter the conceptual

structure of the instrument but enhanced local relevance and response accuracy.

The analysis combines descriptive statistical examination of survey data with thematic analysis of qualitative interviews. Cross-country comparison serves as the primary analytical lens, allowing identification of both shared structural patterns and nationally specific mediating factors.

Rather than evaluating isolated outputs—such as the number of media materials produced—the assessment focuses on systemic shifts within agricultural information ecosystems. Analytical attention is directed toward changes in information accessibility, trust dynamics, behavioral adaptation indicators among farmers, cross-sectoral linkage development between academia and media, and the role of institutional environments in shaping intervention outcomes.

The ecosystem-level interpretation framework positions agricultural information systems as interdependent structures linking media institutions, educational bodies, policy environments, and rural producers. Accordingly, impact is assessed not solely at the level of individual respondents but within broader communicative infrastructures.

Limitations

Several methodological limitations must be acknowledged. First, data collection modalities differed across countries: face-to-face interviews were conducted in Georgia, while Armenia and Azerbaijan relied primarily on online surveys, with Armenia additionally incorporating qualitative expert interviews. These differences may influence the depth and texture of data, particularly in capturing contextual nuances.

Second, variations in media system structures, governance arrangements, and data accessibility across the three countries complicate direct causal attribution. The study does not claim experimental causality but instead emphasizes systemic pattern recognition and comparative interpretation.

Finally, self-reported behavioral change indicators may be subject to recall bias or social desirability bias. Despite these limitations, the use of a unified research instrument and independent national researchers strengthens cross-country comparability and enhances the credibility of findings.

Farmers' Information Sources and the Impact of Climate-Smart Journalism Intervention

One of the central dimensions assessed in this study concerns the structure of farmers' information sources across Georgia, Armenia, and Azerbaijan, and the extent to which the cross-sectoral educational intervention influenced these patterns.

At baseline, agricultural information systems in all three countries exhibited a hybrid structure combining traditional broadcast media, interpersonal networks, and emerging digital platforms. However, the weight and trust attributed to these sources varied significantly by national context.

Armenia: Television as the Dominant Agricultural Information Channel

In Armenia, television remains the primary source of agricultural and environmental information for rural producers. Survey data indicate that a substantial proportion of farmers continue to rely on national broadcast channels, with particular emphasis on the Public Television of Armenia as a trusted source of sector-related information. This pattern reflects both structural and cultural factors: high penetration of traditional television in rural areas, relatively lower levels of digital media diversification, and limited presence of specialized agricultural online platforms.

Qualitative interviews conducted with journalists further confirm that televised agricultural content retains symbolic legitimacy. Farmers perceive televised information as institutionally validated, even when they express skepticism toward broader political content. This duality suggests that agriculture-related programming may operate somewhat independently from politically driven news cycles.

Following the implementation of climate-smart journalism guidelines and journalist trainings, Armenian respondents reported increased exposure to structured agricultural content addressing practical issues such as pest control, climate adaptation, and livestock management. While television remained dominant, the quality and thematic depth of content appear to have improved, particularly where journalists incorporated explanatory and solution-oriented formats introduced during trainings.

Georgia: Diversified Information Ecosystem with Regional Media Influence

In Georgia, farmers' information sources demonstrate greater diversification. While television remains important—particularly regional broadcasters—digital platforms, social media, and peer networks play a more substantial role compared to Armenia.

Face-to-face interviews reveal that farmers frequently combine multiple information sources: local television programs, Facebook-based agricultural groups, YouTube videos, and direct consultation with fellow farmers. Trust patterns tend to correlate with perceived practical relevance rather than institutional authority alone.

The introduction of a climate-smart reporting module in universities and targeted journalist trainings contributed to strengthening regional agricultural coverage. Respondents noted increased availability of locally relevant content addressing crop-specific and region-specific challenges. Importantly, the establishment of the Regional Media Hub facilitated stronger linkages between journalists and rural stakeholders, improving responsiveness to community concerns.

While television did not lose its significance, the intervention appears to have enhanced the credibility and usability of regional media content. Farmers increasingly referenced explanatory formats and solution-oriented reporting rather than purely event-driven coverage.

Azerbaijan: Emerging Digital Engagement within a Centralized Media Context

In Azerbaijan, survey data suggest a transitional information environment. Traditional broadcast television remains influential, particularly state-affiliated channels, yet digital platforms and social media are gaining traction among younger and mid-aged rural producers.

The standardized questionnaire indicates that farmers often supplement television information with online searches and informal networks. However, trust in independent or specialized agricultural media remains comparatively lower, reflecting a more centralized media ecosystem.

Although the intervention in Azerbaijan relied primarily on journalist capacity-building and guideline dissemination rather than extensive qualitative engagement, respondents reported greater awareness of climate-related agricultural risks and practical mitigation strategies following the intervention period. This suggests that even within centralized systems, structured journalist education can contribute to incremental diversification of content.

Cross-Country Patterns

Across the three countries, several common patterns emerge:

1. Television continues to serve as a foundational information source, particularly in Armenia.
2. Digital and peer-based networks supplement traditional media, especially in Georgia.
3. Trust in agricultural information is strongly linked to perceived practical relevance rather than political alignment.
4. Structured climate-smart reporting improves perceived content usefulness, even where media systems differ substantially.

The data indicate that the development of climate-smart journalism guidelines and the implementation of targeted trainings did not fundamentally replace existing information channels. Rather, they

enhanced the quality, clarity, and applicability of content within those channels.

This finding aligns with diffusion of innovations theory (Rogers, 2003), suggesting that credibility and clarity of communication—rather than mere channel expansion—are central to behavioral adaptation. In contexts where agricultural extension systems are weakened, improving journalistic competence appears to strengthen existing communicative infrastructures rather than creating entirely new ones.

Utilization of Agricultural Information and Perceived Impact on Farming Practices

Beyond identifying primary information sources, a critical dimension of this study concerns the extent to which farmers actively use agricultural media content and how such use translates into behavioral or practical change.

Georgia: From Information Consumption to Practice Adaptation

In Georgia, face-to-face interviews reveal that farmers not only consume agricultural information but frequently integrate it into decision-making processes. Respondents reported applying knowledge related to pruning techniques, pest control, composting, greenhouse management, and climate-adaptive crop practices.

Several interviewees explicitly connected improved yields or reduced production costs to information obtained through media channels. Farmers emphasized that explanatory, step-by-step formats were particularly influential in encouraging experimentation with bio-fertilizers, reduced chemical input, and soil management strategies.

The intervention's climate-smart reporting guidelines appear to have strengthened solution-oriented journalism, increasing the perceived practicality of content. Rather than remaining at the level of policy announcements, agricultural media coverage increasingly addressed actionable techniques, which farmers reported testing on small plots before scaling up. This incremental adoption pattern reflects classical diffusion dynamics, where early experimentation precedes broader implementation.

Importantly, Georgian respondents indicated that trust and practical clarity were decisive factors in transforming information into practice. Where content was locally contextualized and visually demonstrated, farmers expressed higher willingness to apply recommended techniques.

Armenia: High Media Reliance, Selective Practical Adoption

In Armenia, television remains the dominant agricultural information source; however, the transition from information exposure to practical application appears more selective. Survey responses indicate that while a majority of farmers regularly access agricultural programming—particularly through Public Television—fewer report systematic implementation of recommended practices.

Nevertheless, qualitative findings suggest that climate-smart explanatory formats introduced during journalist trainings contributed to increased awareness of pest management, livestock heat stress mitigation, and irrigation efficiency. Farmers reported that clear, problem-focused reporting enhanced their understanding of climate-related risks.

Adoption patterns in Armenia appear influenced by structural constraints, including access to inputs, financial resources, and extension support. Thus, while information exposure increased, implementation often depended on broader institutional conditions. Media content functioned primarily as awareness-raising and risk-prevention guidance rather than as a direct driver of systemic transformation.

Azerbaijan: Awareness Growth and Incremental Behavioral Shifts

In Azerbaijan, survey data indicate that farmers frequently encounter agricultural information through television and increasingly through digital channels. The intervention's impact is reflected in reported increases in awareness of climate-related agricultural risks and interest in bio-practices.

However, the translation of knowledge into sustained behavioral change appears gradual. Farmers reported testing specific techniques—such as reduced pesticide use or alternative crop management methods—on limited scales. Broader adoption was often contingent upon market conditions and perceived economic viability.

This suggests that in more centralized media environments, educational intervention may first shift cognitive awareness before producing measurable structural practice change. The relationship between information and behavior appears mediated by economic and institutional stability.

Cross-Country Impact Patterns

Across the three countries, several comparative patterns emerge:

1. Exposure to climate-smart agricultural media increased during the intervention period.
2. Farmers demonstrated varying degrees of practical adoption, with Georgia showing the strongest direct application patterns.
3. The perceived usefulness of content was closely linked to clarity, local relevance, and solution-oriented framing.
4. Structural constraints — financial, institutional, or infrastructural — moderated the translation of information into large-scale behavioral change.

Rather than producing uniform transformation, the intervention appears to have strengthened the informational foundation upon which adaptive agricultural practices can develop. In contexts where extension services are weakened, journalism education reform contributed to improving the quality and applicability of agricultural content, thereby enhancing farmers' capacity to make informed decisions.

This supports the argument that journalism education can function as an indirect yet significant mechanism of agricultural system strengthening. While media alone cannot substitute for institutional agricultural reform, it can reinforce adaptive knowledge pathways and reduce informational asymmetries within rural communities.

Adoption of Agro-Ecological Practices and Sector-Specific Impact: Livestock and Beekeeping

One of the most tangible indicators of intervention impact concerns the adoption of agro-ecological practices and sector-specific improvements, particularly in livestock management and beekeeping. Across the three countries, the data reveal that exposure to climate-smart agricultural media was most strongly associated with incremental changes in environmentally adaptive farming practices rather than with large-scale structural transformation.

Agro-Ecological Practices: From Awareness to Application

In Georgia, farmers reported the highest level of practical adoption of agro-ecological techniques. Interview data indicate increased use of bio-fertilizers, composting methods, reduction of chemical inputs, and improved disease prevention strategies. Several respondents explicitly linked media-derived knowledge to measurable improvements in crop resilience and soil protection. The emphasis on explanatory formats—demonstrating “how” rather than merely “what”—appears to have facilitated experimentation and small-scale testing prior to broader adoption.

In Armenia and Azerbaijan, survey data suggest a growing awareness of agro-ecological approaches, including pest management alternatives and climate-adaptive cultivation methods. However, adoption levels were more selective and often constrained by input availability and economic considerations. Farmers expressed interest in environmentally sustainable practices but frequently cited financial limitations or lack of advisory services as barriers to full implementation.

Across all three contexts, agro-ecological adoption followed a gradual trajectory: initial awareness, selective experimentation, and conditional integration into routine practice. The intervention appears to have accelerated the awareness and experimentation stages.

Cost Reduction and Labor Efficiency

A recurring theme across interviews and survey responses concerns economic rationality. Farmers are more likely to adopt practices perceived to reduce input costs, labor intensity, or production risk.

In Georgia, respondents reported that composting organic waste reduced fertilizer expenditures and improved soil quality simultaneously. Some livestock farmers indicated that improved feed management strategies learned through media programming resulted in healthier animals and lower veterinary costs. These examples suggest that where climate-smart content aligns ecological sustainability with economic benefit, adoption rates increase significantly.

In Armenia, farmers described applying risk-prevention knowledge—particularly in livestock disease management and irrigation timing—to avoid potential losses. While not always framed as innovation, such preventive measures contribute to cost efficiency by reducing avoidable damage.

In Azerbaijan, respondents noted increased interest in optimizing pesticide use and improving crop rotation practices to enhance productivity. However, adoption was often cautious and incremental, reflecting both economic uncertainty and limited extension support.

The data suggest that the perceived economic impact of climate-smart information plays a decisive role in behavioral change. Environmental framing alone is insufficient; farmers respond most strongly to practices that combine ecological sustainability with financial viability.

Livestock Management: Climate Adaptation and Preventive Knowledge

The livestock sector emerged as one of the areas where media intervention demonstrated clear relevance. Climate-related stress, disease outbreaks, and feed quality management are recurring challenges across the South Caucasus.

In Georgia, farmers reported increased awareness of heat stress management in livestock and improved disease prevention techniques. Explanatory video formats addressing preventive veterinary practices were frequently cited as useful. Farmers emphasized that understanding early warning signs of disease allowed them to act before losses occurred.

In Armenia, livestock farmers reported relying heavily on television programming for guidance on disease management and state-supported veterinary initiatives. While implementation was sometimes limited by resource availability, the informational function of climate-smart reporting was described as “protective” rather than transformative—helping farmers avoid severe losses.

In Azerbaijan, survey responses indicate growing recognition of climate-related risks affecting animal husbandry. Farmers expressed interest in adaptive feeding schedules and shelter management practices. Although comprehensive transformation was not observed, awareness of preventive strategies increased during the intervention period.

Beekeeping: Direct and Visible Impact

Among all agricultural subsectors, beekeeping demonstrated the most direct and visible linkage between information exposure and behavioral change.

Across Georgia and Armenia in particular, respondents reported applying knowledge related to hive disease management, seasonal care, pest control (including protection from invasive species), and proper honey extraction techniques. Beekeepers described media-derived advice as immediately applicable and economically consequential.

In Georgia, several interviewees noted that learning preventive techniques reduced colony loss and improved honey yield quality. The clarity of step-by-step reporting formats was repeatedly emphasized. Beekeeping, unlike broader crop systems, allows for relatively low-cost experimentation, which may explain higher responsiveness to media-based guidance.

In Armenia, beekeepers cited televised programming as a primary source of practical guidance. The Public Television’s agricultural segments were perceived as reliable and instructive in this domain.

In Azerbaijan, survey data suggest increased awareness of hive protection techniques and seasonal management practices, though large-scale adoption remains gradual.

Beekeeping thus appears to function as a “high-elasticity” sector in relation to informational intervention—where knowledge transfer rapidly translates into observable outcomes.

Traditional Versus Innovative Segments

Across all three countries, the research identifies a clear segmentation between traditionalist farmers and innovation-oriented adopters.

A segment of respondents expressed strong attachment to inherited practices, emphasizing reliance on ancestral knowledge and skepticism toward new methods. This group was present in all three countries, though more visibly articulated in Georgia’s in-depth interviews. For these farmers, media information is often filtered through existing experiential frameworks.

Conversely, a second segment—often younger or commercially oriented producers—demonstrated openness to experimentation and active engagement with climate-smart content. These farmers were more likely to test bio-practices, diversify crops, and adjust livestock management strategies.

The intervention appears to have strengthened the innovative segment by improving access to credible, structured knowledge. However, the traditionalist segment remains dependent on trust-building communication and peer validation.

Comparative Synthesis

Taken together, the findings indicate that climate-smart journalism education contributes most strongly in sectors where:

1. Knowledge is directly actionable;

2. Economic benefits are observable;
3. Required investments are moderate;
4. Risks of experimentation are manageable.

Livestock management and beekeeping meet these criteria more consistently than capital-intensive crop systems. As a result, the intervention's impact is most visible in preventive animal health practices and hive management improvements.

While journalism education alone cannot transform agricultural systems, it plays a measurable role in strengthening adaptive capacity—particularly where environmental sustainability aligns with economic rationality.

Educational Sector Transformation: Institutionalization of Climate-Smart Journalism

Beyond shifts in farmers' information behavior, one of the most structurally significant outcomes of the intervention concerns its impact on journalism education systems in the South Caucasus. Unlike short-term media outputs, curricular reform represents a durable mechanism for influencing future media ecosystems.

At the outset of the project in 2023, agricultural journalism was already present in a limited form within certain universities in Georgia and Armenia, largely as a legacy of previous initiatives led by the Journalism Resource Centre (JRC). In Georgia, agri-journalism modules were being taught in 11 universities, primarily as elective or integrated subjects. In Armenia, agricultural journalism was taught in two universities. In Azerbaijan, structured academic teaching of agricultural journalism was either absent or highly limited.

However, despite the existence of agri-journalism modules, climate-smart communication and environmental adaptation reporting were not institutionalized as dedicated academic components in any of the three countries. Climate coverage, where present, was often fragmented, embedded in broader environmental courses, or dependent on individual lecturer initiative.

Thus, the baseline reflected partial institutional presence of agricultural journalism, but absence of systematic climate-smart reporting education.

By the conclusion of the intervention period in 2026, measurable expansion and curricular integration had occurred across all three countries.

In Georgia, the number of universities teaching agricultural journalism increased from 11 to 13 institutions. More importantly, the Climate-Smart Communication and Reporting module was integrated into 15 elective course modules across journalism programs. This represents not only quantitative growth but qualitative curricular enrichment. The module introduced structured content on climate adaptation, environmental risk communication, agro-ecological practices, and solution-oriented reporting formats.

In Armenia, the two universities that previously taught agricultural journalism incorporated climate-smart components into their curricula. While the total number of institutions remained stable, the content transformation was substantive. The module provided a structured framework where previously coverage depended on informal adaptation.

In Azerbaijan, the intervention facilitated the introduction of climate-smart journalism content within one university represented by the project partner researcher. Although institutional expansion was modest compared to Georgia, the inclusion of the module represents an important initial step within a more centralized academic and media environment.

The expansion and formal integration of climate-smart journalism education carry systemic implications for agricultural information ecosystems.

First, curricular institutionalization reduces reliance on project-based training cycles. When climate-smart reporting becomes embedded within formal academic structures, knowledge transmission is no longer contingent upon donor funding or short-term workshops. Instead, it enters the standard training pipeline for future journalists.

Second, the module establishes interdisciplinary linkages between journalism, environmental science, and agricultural studies. This cross-sectoral integration strengthens the epistemic foundations of sector-specific reporting and addresses one of the key structural barriers identified in baseline assessments—the absence of subject-matter expertise among journalists.

Third, the expansion signals a shift from reactive coverage toward anticipatory and resilience-oriented reporting. Climate-smart journalism education frames agricultural reporting within broader sustainability and adaptation narratives, aligning media practice with long-term environmental governance needs.

Cross-Country Comparative Perspective

The degree of institutional transformation varied across countries, reflecting broader differences in media and higher education systems.

Georgia demonstrates the strongest quantitative expansion and curricular penetration. The increase from 11 to 13 universities and integration into 15 elective modules suggests that the educational environment was receptive to structured reform. This expansion also reflects the presence of a more decentralized academic landscape and existing regional media linkages.

In Armenia, transformation was more qualitative than quantitative. While the number of universities remained unchanged, the systematic incorporation of climate-smart frameworks enhanced the depth and coherence of existing agri-journalism teaching.

In Azerbaijan, progress was incremental but symbolically significant. The introduction of the module within at least one university marks the beginning of structured climate-oriented journalism education in a context where such specialization was previously limited.

The findings suggest that journalism education reform functions as infrastructural reinforcement within agricultural information systems. Unlike media outputs, which fluctuate with editorial priorities and economic pressures, curricular integration provides long-term stability.

By 2026, climate-smart communication had moved from a project-based initiative to an institutionalized academic component across multiple universities in the South Caucasus. This transformation strengthens the human capital foundation of agricultural journalism and enhances the sustainability of media ecosystem reform.

While differences remain in scale and institutional depth across countries, the comparative evidence indicates that cross-sectoral educational intervention can generate measurable structural change within higher education systems, thereby contributing to the rebuilding of agricultural information infrastructures in transitional contexts.

Student-Level Impact: Institutional Penetration and Human Capital Formation

To assess the sustainability of the educational intervention, a parallel student-level survey was conducted across participating universities. In Georgia, the questionnaire was distributed online to 200 students through partner universities. In Armenia, independent researchers conducted smaller-scale surveys, interviewing 10 students in each participating institution. The student data provide insight into the depth of curricular integration and its influence on emerging journalistic competencies.

Demographic and Programmatic Distribution

Across responses, 73% of participants were female, indicating a strong gendered presence within journalism and related academic programs. This aligns with broader trends in communication studies across the region, where female students constitute the majority of journalism cohorts.

The Climate-Smart Communication and Reporting module was predominantly embedded within Journalism and Mass Communication programs (84%). A smaller proportion of respondents reported integration within Agricultural Education (7%) and other related disciplines (9%), including environmental protection, business, economics, and interdisciplinary tracks. This distribution confirms that the intervention primarily targeted journalism education while beginning to expand into cross-sectoral academic spaces.

Most respondents indicated that the course was offered as an elective module, suggesting that enrollment reflects voluntary academic interest rather than mandatory curricular obligation. This elective structure is particularly relevant when evaluating student motivation and perceived relevance.

Institutionalization and Timing

In Georgia, the majority of students reported beginning the course in March 2024, shortly after module development and institutional adoption. In Armenia, the primary implementation phase began later, with students indicating September 2025 as the start period. This staggered rollout reflects differences in institutional integration timelines but does not appear to have affected student-level reception.

The course was most commonly structured as a one-semester module, typically carrying 5 academic credits. At the degree level, 84% of respondents were undergraduate students, 12% were enrolled at the master's level, and 4% at the doctoral level. This distribution suggests that the intervention successfully penetrated the foundational stage of journalism education, potentially influencing future professional trajectories at an early stage.

Student Reception and Perceived Value

Student reception of the module was overwhelmingly positive. Ninety-eight percent of respondents reported that they liked the course. Only 2% expressed dissatisfaction. Such high approval rates suggest that the module addressed a perceived gap in journalism curricula and resonated with student interests.

Importantly, the data indicate that student engagement extended beyond passive satisfaction. A majority of respondents reported applying the knowledge gained. The most frequently selected response was that students began writing articles related to climate-smart agriculture and environmental issues. Others reported producing video content or expressing interest in professional engagement within the sector.

The emergence of student-generated content is a particularly strong indicator of educational impact. It suggests that the module did not remain theoretical but translated into practical experimentation within academic or early professional settings.

Interest Dynamics and Professional Orientation

Respondents reported that interest in the module increased over time rather than declining. This suggests that exposure to climate-smart reporting does not generate short-term novelty interest but may cultivate sustained professional curiosity.

Students also indicated that the course contributed to greater awareness of environmental risks, rural vulnerability, and the societal role of journalism in addressing climate-related agricultural challenges. Several respondents highlighted that the module expanded their understanding of journalism beyond political reporting, introducing agriculture and climate resilience as legitimate and socially significant fields of specialization.

This shift in perception is crucial in media systems where political agenda-setting tends to dominate editorial priorities. By framing agricultural reporting as a domain requiring expertise and ethical responsibility, the module potentially diversifies the professional aspirations of journalism students.

Pedagogical Adaptation and Teaching Practice

Faculty-level responses indicate that teaching practices were adjusted following the introduction of the module. Instructors reported incorporating more case-based learning, field-oriented assignments, and practical content production exercises.

The integration of real media materials and region-specific case studies strengthened experiential learning components. This pedagogical shift moves climate-smart journalism education from abstract environmental discourse toward applied, sector-specific communication training.

Such adaptation is significant because it suggests that the intervention did not merely insert a new topic into curricula but influenced instructional methodology. The combination of theoretical grounding and applied reporting exercises appears to have enhanced student engagement and perceived professional relevance.

Structural Implications

Taken together, the student-level findings demonstrate that the intervention achieved not only institutional expansion but also meaningful penetration into student consciousness and professional orientation.

The high approval rate, voluntary enrollment patterns, early-stage undergraduate integration, and active application of knowledge indicate that climate-smart journalism education is becoming normalized within academic training pipelines.

From an ecosystem perspective, this represents long-term infrastructural reinforcement. While media outputs fluctuate with economic and political pressures, trained cohorts of journalists equipped with sector-specific competencies provide a sustainable foundation for agricultural information systems.

In transitional media environments, where subject-matter expertise is often scarce, embedding climate-smart reporting within higher education may constitute one of the most durable reform mechanisms available.

This study set out to examine whether and how climate-smart journalism education can function as a structural mechanism for rebuilding agricultural information systems in Georgia, Armenia, and Azerbaijan. The findings across farmers, students, and institutional structures provide converging evidence that educational intervention operates as an ecosystem-level reform rather than as a short-term media enhancement.

Addressing RQ1: Influence on Media Content Structure and Quality

The introduction of climate-smart journalism modules and professional trainings demonstrably shifted the framing and structure of agricultural media content. Across countries, journalists increasingly adopted explanatory, solution-oriented, and preventive formats rather than event-driven or policy-announcement coverage.

Farmers reported improved clarity, practical relevance, and applicability of content. Particularly in Georgia, climate-smart formats translated into step-by-step guidance on pruning, composting, pest management, and livestock care. In Armenia, television—especially Public Broadcasting—remained the dominant channel, yet qualitative data indicate that structured climate-oriented content enhanced informational depth. In Azerbaijan, awareness growth preceded structural adoption, reflecting a more centralized media environment.

Thus, journalism education reform influenced not only individual journalists but also the qualitative characteristics of agricultural reporting. Rather than expanding channels, the intervention improved communicative precision within existing infrastructures.

Addressing RQ2: Impact on Farmers' Information Behavior and Practice Adoption

Farmers' behavioral responses varied across contexts, but a consistent pattern emerged: where information was clear, locally relevant, and economically rational, adoption followed.

Agro-ecological practices, particularly composting, bio-input reduction, and preventive livestock management, showed incremental growth. The strongest visible impact occurred in livestock and beekeeping sectors, where preventive knowledge directly reduced risk and economic loss.

Beekeeping proved especially responsive to informational intervention. Farmers reported applying disease prevention strategies and seasonal hive management techniques learned through media

content. The relatively low cost of experimentation in beekeeping likely amplified responsiveness.

However, structural constraints moderated adoption. In Armenia and Azerbaijan, access to inputs and financial capacity limited full-scale implementation. This suggests that journalism functions as an enabling but not sufficient condition for systemic agricultural transformation.

Nevertheless, the findings confirm that educational intervention strengthened farmers' informational capacity and improved adaptive decision-making within their structural limits.

Addressing RQ3: Strengthening Cross-Sectoral Linkages

The intervention's impact extends beyond farmers and content producers to cross-sectoral institutional linkages.

The expansion of climate-smart modules from 11 to 13 universities in Georgia and integration into 15 elective modules represents institutional consolidation. In Armenia and Azerbaijan, although expansion was more modest, structured curricular integration established new academic anchors for agricultural journalism.

Simultaneously, journalist trainings and the Regional Media Hub strengthened cooperation between universities, media practitioners, and rural stakeholders. Students reported producing agricultural content during or after coursework, indicating early-stage professional integration.

The convergence of trained students, updated curricula, and practicing journalists suggests that the intervention created vertical linkages (education-to-practice) and horizontal linkages (media-to-rural communities).

Such cross-sectoral integration addresses one of the baseline weaknesses: fragmentation between knowledge production, media dissemination, and agricultural practice.

Addressing RQ4: Institutional Mediation Across Countries

The comparative design reveals that institutional environments mediate intervention outcomes.

Georgia demonstrated the strongest structural penetration, likely due to a more decentralized academic system and established regional media networks. Armenia exhibited qualitative enhancement within a context of institutional agricultural restructuring and continued reliance on public television. Azerbaijan reflected incremental shifts within a centralized media framework.

Despite these differences, the intervention produced measurable improvements across all three contexts, suggesting that educational reform possesses adaptive flexibility within diverse media systems.

Importantly, variation in institutional environments did not negate impact; rather, it shaped its pace and form.

Addressing RQ5: Can Journalism Education Function as Structural Reform?

The integrated evidence supports the hypothesis that journalism education can operate as infrastructural reform within fragile agricultural information ecosystems.

At baseline (2023), the region exhibited:

- Weak extension systems;
- Fragmented agricultural communication;
- Limited subject-matter expertise among journalists;
- Politically prioritized media agendas.

By 2026, the ecosystem shows:

- Institutionalized climate-smart journalism modules;
- Trained student cohorts entering media pipelines;
- Improved content clarity and practical orientation;
- Increased farmer awareness and selective adoption of adaptive practices.

Journalism education did not replace agricultural policy reform nor substitute for extension services. However, it strengthened the communicative backbone of agricultural systems by embedding climate-smart literacy within formal education structures and professional practice.

This layered impact—student formation, content enhancement, and farmer-level behavioral shifts—demonstrates that educational intervention operates not merely as knowledge transfer but as ecosystem stabilization.

Ecosystem Synthesis

The rebuilding of agricultural information systems in the South Caucasus appears to occur through cumulative reinforcement rather than singular transformation.

Educational institutionalization provides long-term sustainability. Professional journalist training enhances immediate content quality. Farmer engagement improves adaptive capacity. Sector-specific impact is strongest where economic rationality aligns with environmental adaptation.

Livestock and beekeeping sectors illustrate this dynamic most clearly.

Thus, the study confirms that climate-smart journalism education represents a viable pathway for reinforcing agricultural information infrastructures in transitional contexts.

Conclusion

This study assessed the impact of a cross-sectoral educational intervention aimed at rebuilding agricultural information systems in Georgia, Armenia, and Azerbaijan through climate-smart journalism education. The findings demonstrate that structured educational reform can function as a stabilizing mechanism within fragile sectoral information ecosystems.

At baseline in 2023, agricultural information systems across the South Caucasus exhibited fragmentation: limited climate-smart reporting within journalism education, weak cross-sectoral linkages, reliance on

politically driven media agendas, and constrained agricultural extension infrastructures. Although agricultural journalism existed in certain universities, climate-oriented communication had not been systematically institutionalized.

By 2026, measurable structural changes had occurred.

At the educational level, climate-smart communication was integrated into 13 universities in Georgia (across 15 elective modules), embedded within two universities in Armenia, and introduced in one university in Azerbaijan. Student-level data reveal high approval rates (98%), active content production, and increased professional interest in environmental and agricultural reporting. The intervention therefore strengthened the human capital base of agricultural journalism.

At the media level, journalist trainings contributed to the adoption of explanatory and solution-oriented formats, particularly in livestock and beekeeping coverage. Content quality improved in terms of clarity, applicability, and preventive guidance.

At the farmer level, exposure to structured climate-smart reporting enhanced awareness, selective adoption of agro-ecological practices, and preventive strategies in livestock and hive management. While structural constraints moderated large-scale transformation, informational capacity and adaptive decision-making improved.

Comparative analysis shows that institutional environments mediate impact: Georgia demonstrated the strongest quantitative expansion; Armenia showed qualitative reinforcement within a television-dominant ecosystem; Azerbaijan reflected incremental but meaningful integration within a centralized context. Despite these differences, the intervention produced convergent systemic reinforcement across all three countries.

The findings support the central argument of this study: journalism education can function as infrastructural reform in contexts where agricultural extension systems are weakened. By embedding climate-smart competencies within formal academic structures and linking them to media practice, the intervention strengthened the communicative backbone of agricultural systems.

Educational reform alone cannot resolve structural agricultural challenges. However, it can reduce informational asymmetry, improve risk awareness, and enhance adaptive capacity among rural producers. In transitional media systems, this represents a significant form of ecosystem stabilization.

Recommendations

Based on the findings, several policy and structural recommendations emerge.

1. Expansion of Cross-Disciplinary Integration

Future development should extend climate-smart reporting education beyond journalism faculties to include agricultural science, environmental studies, and business programs. Cross-disciplinary teaching can enhance epistemic depth and encourage collaborative problem-solving across sectors.

2. Strengthening Practical Training and Field Exposure

To deepen impact, experiential learning components—field reporting, farm-based assignments, and collaboration with rural communities—should be expanded. Direct engagement enhances student competence and strengthens university–community linkages.

3. Reinforcement of Regional Media Networks

Regional broadcasters remain critical information nodes, particularly in Armenia and Georgia. Supporting decentralized media ecosystems increases local relevance and trust. Capacity-building initiatives should continue to prioritize regional media actors.

4. Alignment of Informational and Economic Incentives

Farmers demonstrated strongest adoption where ecological sustainability aligned with economic benefit. Future communication strategies should integrate economic framing with environmental adaptation, emphasizing cost efficiency, risk reduction, and productivity gains.

5. Complementarity with Agricultural Extension Systems

Journalism education should not replace extension services but operate in complementarity. Governments should strengthen data transparency and advisory infrastructures to enable evidence-based reporting and improve the translation of information into practice.

6. Regional Cooperation and Knowledge Sharing

The cross-country comparative design proved valuable. Continued regional collaboration between Georgia, Armenia, and Azerbaijan can support mutual learning, particularly in contexts where institutional environments differ. A regional academic–media platform could further consolidate climate-smart communication expertise.

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Farmers' Information Behavior in Georgia in the Context of Agricultural and Environmental Media Coverage

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Abstract

This study examines farmers' information behavior in Georgia in the context of agricultural and environmental media coverage. The research aims to identify the primary sources of information used by farmers, assess the perceived usefulness of mediated agricultural content, explore barriers to information access and application, and analyze how received information is translated into farming practice. The study is based on a quantitative field survey conducted across all regions of Georgia. A total of 365 respondents, including both family-based and business-oriented farmers, were interviewed using a structured questionnaire through face-to-face data collection. Cluster sampling was applied to ensure regional representation. In minority-populated areas, interviews were conducted in Azerbaijani and Armenian; 7% of respondents represent ethnic minority communities.

The findings indicate that farmers utilize information in diverse ways, including improving crop yield and product quality, adopting eco- and bio-friendly practices, enhancing beekeeping methods, reducing production costs, and experimenting with new agricultural techniques. At the same time, a segment of respondents demonstrates skepticism toward media-based information, while others express willingness to apply knowledge in the future. The results highlight the importance of targeted, accessible, and culturally sensitive agricultural communication strategies to enhance knowledge transfer and practical implementation in the farming sector.

Introduction

Access to reliable and actionable information is a critical factor in the sustainability and competitiveness of contemporary agriculture. In transitional and developing contexts, where smallholder and family-based farming remain dominant, information flows significantly influence decision-making, innovation adoption, and risk management. The concept of *information behavior*—which encompasses how individuals seek, evaluate, interpret, and use information—provides an important analytical lens for understanding how farmers engage with agricultural knowledge systems (Wilson, 2000). In rural environments, information behavior is shaped not only by availability of content but also by trust, accessibility, socio-cultural context, and perceived relevance.

Agricultural knowledge transfer has traditionally relied on extension services, peer networks, and experiential learning. However, in recent decades, media platforms—television, radio, online outlets, and social media—have increasingly become mediators of agricultural and environmental knowledge. Research on rural communication emphasizes that the effectiveness of mediated information depends on clarity, localization, cultural sensitivity, and perceived credibility (Leeuwis & Aarts, 2011). Media-based agricultural communication can support innovation diffusion, environmental awareness, and sustainable farming practices, yet its impact varies depending on farmers' trust in media and their readiness to translate information into practice.

Trust in media represents a particularly significant factor in post-transition societies. Media trust influences not only whether information is consumed, but also whether it is considered reliable enough to inform economic decisions. Studies in communication research suggest that perceived credibility and practical applicability strongly affect behavioral outcomes (Tsfati & Cappella, 2003). In agricultural contexts, where implementation of new knowledge may involve financial risk, skepticism toward media information may limit adoption even when content is accessible.

Within the Georgian context, agricultural communication operates in a complex environment characterized by regional diversity, multilingual communities, and a significant proportion of small-scale farming. The development of constructive approaches to agro-journalism has been emphasized in recent Georgian scholarship. Kuprashvili and Chalagandze (n.d.) introduce the concept of *constructive agro-journalism*, which highlights solution-oriented reporting, practical guidance, and the translation of expert knowledge into accessible formats for farmers. This framework suggests that agricultural media should not merely inform but actively facilitate problem-solving and sustainable development. Constructive agro-journalism thus aligns with broader theories of knowledge transfer and participatory communication, emphasizing the role of media as an intermediary between scientific expertise and rural practice.

Despite growing attention to agricultural media content, limited empirical research has examined how Georgian farmers actually engage with such information, how they evaluate its usefulness, and whether it influences farming practices. Understanding farmers' information behavior at a national level is particularly important in light of environmental challenges, market volatility, and the need for sustainable agricultural transformation.

This study therefore investigates farmers' information behavior in Georgia in the context of agricultural and environmental media coverage. Specifically, it aims to identify the primary sources of information used by farmers, assess the perceived usefulness of mediated content, explore barriers to information access and application, and examine how received information is implemented in agricultural practice.

The primary aim of this study is to examine farmers' information behavior in Georgia within the context of agricultural and environmental media coverage. The research seeks to identify the main sources of information used by farmers, assess how they evaluate the usefulness of mediated agricultural content, explore barriers that may hinder access to or application of such information,

and analyze the extent to which received knowledge is translated into practical farming activities.

To achieve this objective, the study is guided by the following research questions:

RQ1: What information sources do farmers in Georgia rely on for agricultural and environmental topics?

RQ2: How do farmers assess the usefulness and credibility of media-based agricultural information?

RQ3: What barriers affect farmers' access to, understanding of, or implementation of such information?

RQ4: In what ways is mediated agricultural knowledge applied in farming practice?

The study is based on a quantitative field research design. Data were collected through a structured questionnaire administered via face-to-face interviews. A cluster sampling method was employed to ensure geographic representation across all regions of Georgia. The final sample consists of 365 respondents, including both family-based farmers and individuals engaged in business-oriented agricultural activities.

To ensure inclusivity and representation of diverse communities, the research also covered minority-populated regions. Interviews in these areas were conducted in Azerbaijani and Armenian languages. Ethnic minority respondents constitute 7% of the total sample.

The structured questionnaire included sections addressing information sources, perceived usefulness of agricultural media content, levels of trust, barriers to implementation, and reported practical outcomes resulting from received information. The collected data were analyzed using descriptive statistical methods to identify patterns in information behavior and practical application.

This methodological approach enables a comprehensive national-level assessment of how farmers interact with agricultural and

environmental information and provides empirical evidence for evaluating the role of media in rural knowledge transfer.

Results

Respondent Profile

The study sample consists of 365 respondents representing farmers from all regions of Georgia. Both family-based farmers and individuals engaged in business-oriented agricultural activities were included in the survey. The sampling design ensured geographic representation through cluster sampling.

The research also incorporated minority-populated areas, where interviews were conducted in Azerbaijani and Armenian languages to ensure inclusivity. Ethnic minority respondents constitute 7% of the total sample. This linguistic adaptation allowed for broader representation of rural communities and minimized potential communication barriers during data collection.

The sample reflects the structural diversity of Georgian agriculture, where smallholder and family-based farming coexist with more commercially oriented agricultural enterprises. This diversity provides a relevant foundation for analyzing differences in information behavior and media engagement across farming types.

Information Sources

To identify the primary channels through which farmers receive agricultural and environmental information, respondents were asked to select all applicable sources.

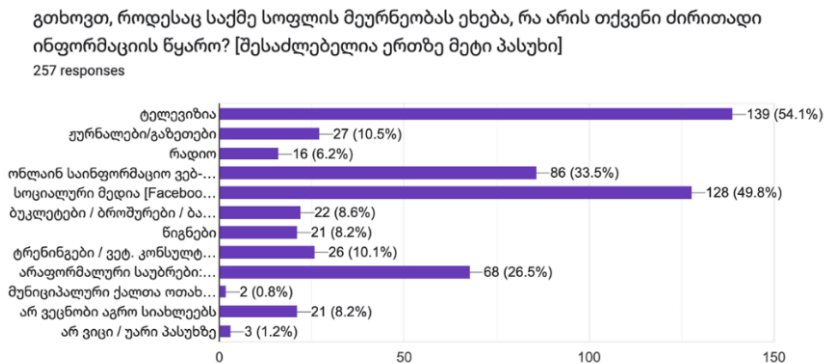
As shown in Figure 1, television remains the most frequently cited source of information, selected by 54.1% of respondents (n = 139). Social media platforms, including Facebook and other online networks, were reported by 49.8% (n = 128) of participants, indicating a strong presence of digital communication channels in rural information environments.

Online informational websites were mentioned by 33.5% of respondents (n = 86), while 26.5% (n = 68) identified informal

communication networks—such as acquaintances and community members—as relevant sources.

Other channels, including journalists/bloggers (10.5%, n = 27), training sessions and consultations (10.1%, n = 26), and radio (6.2%, n = 16), were reported less frequently. Printed materials and brochures accounted for 8.6% (n = 22), while books were mentioned by 8.2% (n = 21). A small proportion of respondents indicated that they do not receive agricultural information (8.2%, n = 21), and 1.2% (n = 3) reported not trusting or not using any information sources.

These results suggest a mixed information ecosystem in which traditional broadcast media and digital platforms coexist with interpersonal communication channels. Television remains dominant; however, nearly half of the respondents actively engage with social media for agricultural knowledge.



Media Outlets Followed by Farmers

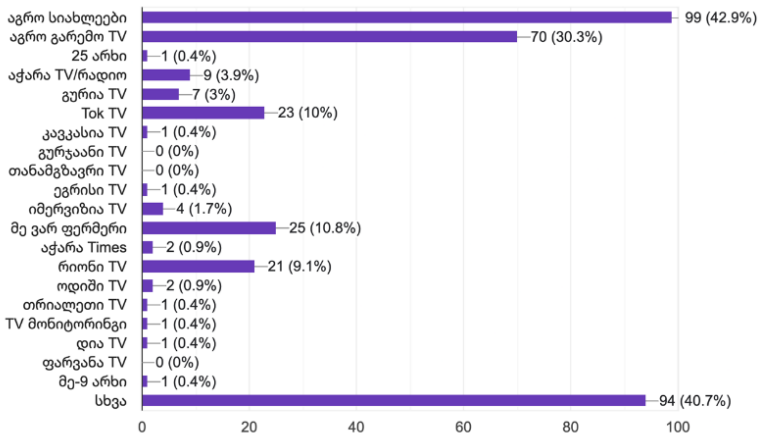
When asked which specific media outlets they had followed during the past 12 months for agricultural information, respondents most frequently identified Agro Siaxleebi (42.9%, n = 99) and the Public Broadcaster (30.3%, n = 70). In addition, 40.7% of participants (n = 94) selected the category “Other,” indicating that a substantial share of farmers rely on additional, non-listed sources for agricultural content. Among regional and thematic broadcasters, TOK TV was

mentioned by 10% (n = 23), while “Me Var Fermeri” was cited by 10.8% (n = 25), and Rioni TV by 9.1% (n = 21).

Other television channels were referenced less frequently, each accounting for a relatively small proportion of responses. The distribution suggests that while nationally recognized and specialized agricultural media outlets occupy a central role in information dissemination, farmers’ media consumption patterns remain fragmented and diversified. The notable share of “Other” responses further indicates the presence of a broader and potentially informal media ecosystem influencing agricultural information flows.

ბოლო 12 თვის მანძილზე მიგიღიათ თუ არა აგროინფორმაცია ქვემოთ ჩამოთვლილი წყაროებიდან?

231 responses



Thematic Popularity of Agricultural Content

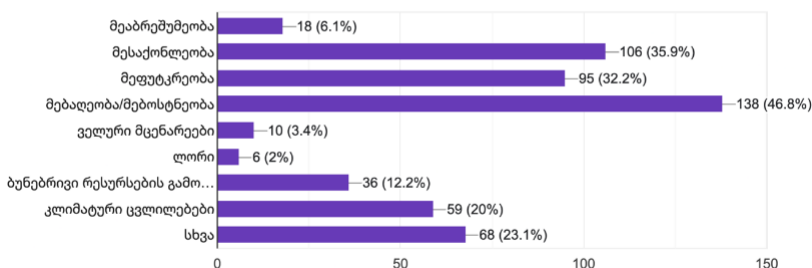
Respondents were also asked to identify which agricultural topics they had followed most frequently during the past 12 months (Figure 3). The most popular thematic area was crop care and production (46.8%, n = 138), followed by livestock and animal husbandry (35.9%, n = 106) and beekeeping (32.2%, n = 95). These findings indicate that content directly related to productivity and core farming activities attracts the greatest attention among respondents.

Other thematic areas were mentioned less frequently. Climate-related issues were selected by 20% of respondents (n = 59), while pest and disease management accounted for 12.2% (n = 36). Market-related topics were cited by 6.1% (n = 18), veterinary issues by 3.4% (n = 10), and irrigation by 2% (n = 6). A notable 23.1% (n = 68) selected “Other,” suggesting interest in additional specialized or locally relevant agricultural topics not listed in the predefined categories.

Overall, the distribution of thematic preferences demonstrates that farmers primarily engage with practical, production-oriented information, while structural or market-related themes receive comparatively lower attention. The presence of climate-related interest, however, indicates emerging awareness of environmental factors affecting agricultural sustainability.

ბოლო 12 თვის განმავლობაში, ზემოთ ჩამოთვლილი წყაროებიდან, რა თემების შესახებ მიგიღიათ ინფორმაცია?

295 responses



Effects and Practical Impact of Media-Based Agricultural Information

Respondents were asked whether information received through media sources had any practical impact on their agricultural production. As illustrated in Figure 4, more than half of respondents (53.4%) reported that media-based information had positively influenced their production outcomes. Conversely, 36.5% indicated that it had not had a noticeable impact, while 10% stated that they did not know or were uncertain.

To further assess perceived effectiveness, respondents were asked to evaluate the usefulness of the information on a five-point scale (1 = no benefit at all; 5 = absolutely beneficial). The results demonstrate generally positive evaluations: 36% rated the information as “highly beneficial,” while 21.8% selected level 2 and 20.1% level 3. A smaller proportion assigned level 4 (11.7%) or level 5 (10.5%). Overall, the distribution suggests that while the majority of farmers perceive at least moderate benefit from media-based agricultural information, the intensity of perceived usefulness varies.

Beyond general perceptions, respondents provided concrete examples of how they applied acquired knowledge in practice. The most frequently reported and significant effect was increased productivity and improved product quality. Farmers described how specific recommendations—particularly regarding pruning techniques, irrigation methods, fertilizer use, and bio-preparations—directly translated into measurable improvements in yield and crop condition.

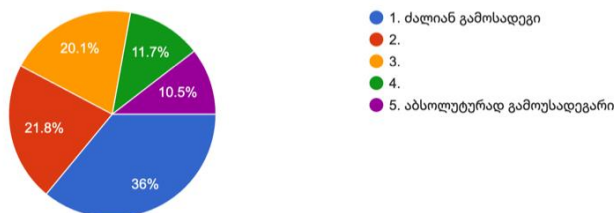
Several respondents emphasized quantitative and qualitative gains. As one farmer stated, “I received a larger harvest than before.” Another reported, “The quality of my produce improved—my blueberries became larger and sweeter.” Others highlighted technical adjustments: “After applying the correct pruning methods, I obtained significantly more fruit,” and “The soil was less damaged, and overall productivity increased.” These testimonies indicate that media-based agricultural guidance is not merely theoretical but often operationalized through specific changes in farming techniques.

In addition to yield growth, farmers reported extended flowering and fruiting periods, more efficient resource management, and improved soil health. The emphasis on bio-preparations and sustainable techniques also suggests alignment between media messaging and environmentally conscious farming practices.

Taken together, these findings demonstrate that media-based agricultural information can function as a catalyst for incremental innovation in farming practices. While not all respondents reported direct impact, a majority indicated tangible benefits, particularly in

relation to productivity and quality enhancement. The integration of specific technical advice into everyday agricultural routines reflects a practical dimension of information behavior, where mediated knowledge becomes embedded in hands-on farming activity.

მთლიანობაში, 5-ბალიან სკალაზე შეეფასეთ, რამდენად გამოსადეგი იყო მიღებული ინფორმაცია, სადაც 1 ნიშნავს „ძალიან გამოსადეგს“, ხოლო 5 – „სულაც არ არის გამოსადეგი“
239 responses



Strengthening of Ecological and Bio-Based Practices

A significant proportion of respondents reported that media-based agricultural information contributed to the adoption and strengthening of ecological and bio-oriented farming practices. Farmers indicated that they had learned and implemented techniques such as the use of bio-fertilizers, composting, bio-preparations, and the reduction of chemical inputs.

The reported effects of these changes were both environmental and economic. Respondents emphasized reduced side effects on crops, improved soil protection, and the production of environmentally friendly agricultural products. Several farmers described tangible transitions in their production processes. One participant noted, “The use of bio-fertilizers strengthened my plants and reduced the need for chemicals.” Another explained, “Composting waste reduced costs and made the product healthier.” These statements illustrate how environmental awareness translated into practical action.

In addition to soil and crop improvements, some farmers reported acquiring skills in waste composting, plant disease prevention, and

pest control. The application of these practices suggests that bio-production is increasingly perceived not merely as a trend but as a viable economic strategy. As one respondent reflected, “The knowledge I received helped me avoid mistakes that were causing losses every year.” This indicates that ecological adjustments are closely tied to economic resilience.

Improvement in Beekeeping Practices

Beekeeping emerged as one of the most dynamic areas in which farmers rapidly applied media-based knowledge. Respondents frequently mentioned improvements in managing bee diseases, protecting hives, proper honey extraction, colony multiplication, and protection against invasive pests such as the brown marmorated stink bug.

Several testimonies reflect the immediacy of the impact. One beekeeper stated, “My bee colonies no longer collapse—I learned proper prevention techniques.” Another highlighted the practical value of targeted information, describing media guidance as “life-saving content” for beekeepers. The language used by respondents underscores the high stakes associated with apiculture, where disease outbreaks or improper hive management can result in significant losses.

The responsiveness observed in this sector suggests that where information is highly specialized, actionable, and directly linked to observable risks, adoption tends to occur more rapidly. Beekeeping thus represents a clear example of how media can function as a direct intervention tool within agricultural sub-sectors.

Cost Reduction and Workload Optimization

Beyond productivity and ecological practices, respondents also emphasized economic efficiencies achieved through the application of acquired knowledge. Farmers reported reduced production costs, simplified work processes, and avoidance of unnecessary expenditures.

For example, one participant explained, “In some cases, I avoided unnecessary expenses.” Another stated, “It simplified my farming work and reduced costs.” Others described more specific adjustments: “Certain types of feed grass turned out to be more budget-friendly for livestock.” These examples indicate that media-based information contributed not only to technical improvements but also to more strategic resource allocation.

The economic dimension of these outcomes is particularly important in smallholder contexts, where even incremental savings can significantly influence household stability. The findings suggest that farmers evaluate information not solely in terms of innovation but also in relation to cost-benefit calculations.

Experimentation with New Plants and Methods

The survey results also reveal a degree of openness toward experimentation and innovation. Farmers reported initiating new practices such as plant propagation through cuttings, cultivation of new varieties, berry crop management, greenhouse optimization, and even the maintenance of tropical and alpine flowers.

One respondent stated, “Now I propagate strawberry seedlings myself—I no longer need to purchase them.” Another remarked, “I learned effective greenhouse flower management, and it simplified my business.” These testimonies suggest that when knowledge is perceived as practical and replicable, it can stimulate entrepreneurial behavior and diversification.

The willingness to experiment demonstrates an emerging innovation-oriented mindset among a segment of farmers, particularly where information is accessible and clearly demonstrated.

Traditionalist and Skeptical Segment

Despite these positive outcomes, the data also reveal the presence of a traditionalist segment that remains cautious or skeptical toward media-based agricultural advice. Some respondents expressed preference for inherited knowledge and long-established practices. Statements such as “I am afraid of innovations; I never use them,” “I

do what my father and grandfather did,” and “Everything I know comes from my grandfather” reflect a strong reliance on intergenerational transmission of knowledge.

However, even within this group, subtle shifts were observable. One respondent admitted, “I used to do only what I learned from my grandfather, but it turned out that there are easier methods.” This indicates that skepticism does not necessarily equate to complete resistance, but rather suggests that trust-building and contextualization are critical.

Potential Early Adopters

Finally, a portion of respondents indicated that although they had not yet applied the received information, they recognized its potential value. These participants described themselves as observing, evaluating, or waiting for appropriate conditions before implementation. This group represents a potential pool of early adopters, particularly if information is delivered in simplified, practice-oriented formats.

Overall, the findings demonstrate that media-based agricultural information has multifaceted practical effects, ranging from productivity gains and ecological transformation to economic optimization and sector-specific resilience. While adoption is not universal, the data suggest that when information is perceived as credible, applicable, and economically rational, it is likely to be integrated into farming routines.

Conclusion and Recommendations

This study examined farmers’ information behavior in Georgia in the context of agricultural and environmental media coverage. The findings demonstrate that farmers operate within a hybrid information ecosystem, combining traditional interpersonal knowledge networks with mediated communication channels such as television, social media, and online platforms. Television remains a dominant source, yet digital platforms increasingly shape rural information flows.

More than half of respondents reported a positive practical impact of media-based agricultural information on their production outcomes. The most frequently observed effects include increased crop yield, improved product quality, strengthened ecological and bio-based practices, enhanced beekeeping management, reduced production costs, and experimentation with new cultivation methods. These outcomes indicate that agricultural media content, when perceived as credible and actionable, can contribute to incremental innovation and economic efficiency within rural communities.

At the same time, the findings reveal differentiated adoption patterns. While many farmers actively integrate new knowledge into practice, a traditionalist segment remains cautious, relying primarily on inherited methods and experiential learning. Another group acknowledges the potential value of mediated information but has not yet implemented it, representing potential early adopters. These variations underscore that access to information alone does not guarantee behavioral change; trust, contextual relevance, and economic feasibility remain decisive factors.

The results also highlight the importance of ecological awareness. The adoption of composting, bio-fertilizers, and reduced chemical use demonstrates growing alignment between agricultural media messaging and sustainable production practices. In sectors such as beekeeping, media-based information appears particularly impactful, functioning as an immediate and practical intervention tool.

Based on these findings, several recommendations can be formulated:

1. **Strengthen Constructive Agro-Journalism Approaches.** Media content should remain solution-oriented, practice-based, and locally contextualized. Translating expert knowledge into clear, step-by-step guidance increases the likelihood of adoption.
2. **Enhance Trust-Building Strategies.** To reach skeptical and traditionalist farmers, communication should incorporate testimonials, field demonstrations, and peer validation. Trust can be reinforced through consistent, evidence-based reporting.

3. **Promote Multilingual and Inclusive Communication.** Given the linguistic diversity of rural Georgia, continued adaptation of content into minority languages is essential for equitable knowledge dissemination.

4. **Increase Practical Demonstration Formats.** Visual and demonstration-based content—such as instructional videos and real-life case examples—may enhance comprehension and reduce perceived implementation risks.

5. **Support Innovation-Oriented Segments.** Farmers expressing willingness to experiment represent a key leverage point for accelerating sustainable agricultural transformation.

In conclusion, media-based agricultural communication in Georgia demonstrates measurable practical relevance. While its impact is neither uniform nor automatic, the evidence suggests that when information is accessible, credible, and economically meaningful, it becomes embedded in everyday farming practice. Strengthening constructive, trust-based, and context-sensitive agricultural journalism can therefore play a strategic role in supporting rural resilience and sustainable development.

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The Practice of Media Coverage of Agro-topics in Azerbaijan

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Abstract:

This article examines the practice of media coverage of agricultural topics in Azerbaijan, drawing on articles, surveys conducted among farmers, and analytical materials. It explores the sources from which farmers in Azerbaijan obtain agricultural information, the accessibility and reliability of this information, and the effectiveness of media outlets in addressing the needs of rural communities.

Keywords: Azerbaijan; Agricultural Sector; Media; Information Sources; Analyze.

Introduction

Azerbaijan, recognized for its agricultural potential, strategic location, and farming traditions, provides substantial government support for the agricultural sector. This support includes exemptions from most taxes except for land tax, direct and indirect financial assistance, special concessions, low-interest loans, and waivers of customs duties on imported inputs, promotion of exports, and facilitation of farmers' access to essential information.

The adoption and expansion of information technologies in the agricultural sector, coupled with the diversification of information sources, have significantly enhanced the scope and depth of media coverage in this area.

The Ministry of Agriculture of Azerbaijan, responsible for developing and implementing state policy in the sector and overseeing its

normative-legal and economic regulation, carries out targeted measures to strengthen and expand media coverage. Its media policy aims to ensure transparency regarding agricultural reforms, state programs, and subsidy and support mechanisms, while also informing the public about innovative technologies, including the adoption of climate-smart agricultural practices. The increased emphasis on sustainable development, environmental conservation, and efficient resource use has resulted in a greater proportion of media coverage being devoted to climate-smart agriculture alongside other agricultural topics.

The 29th session of the Conference of the Parties (COP29) to the United Nations Framework Convention on Climate Change, held at a high level in Azerbaijan from November 11 to 22, 2024, is regarded as a milestone event with significant implications. One of the key outcomes of this esteemed conference was the establishment of a new global target to provide USD 1.3 trillion in climate finance to developing countries by 2035, the full operationalization of the Loss and Damage Fund, and the complete agreement on Article 6 of the Paris Agreement, thereby initiating the functioning of international carbon markets (COP29, 2024). These globally significant decisions underscore international support for Azerbaijan's initiatives toward a green and sustainable future. Within the framework of the event, discussions on numerous pressing topics reflected prospective directions for improving state support mechanisms in the agricultural sector. From this perspective, it is particularly important that Azerbaijan's system of support measures places extensive emphasis on enhancing the efficiency of water and land use under global climate change conditions.

Farmers' ability to access information on various aspects of agriculture, including climate-smart practices, largely depends on the extent to which the media covers these topics. State policy, with its high prioritization of developing the non-oil sector, diversifying the economy, ensuring national food security, and promoting the development of rural communities, has contributed to broader media coverage. The degree of media attention given to agricultural topics

and farmers' access to such information is significantly influenced by the methods, approaches, and tools employed by the media.

Research Methodology

The primary objective of this study is to examine the extent of media coverage of agricultural issues in Azerbaijan, identify the main sources from which farmers obtain agricultural information, and evaluate the accessibility and reliability of this information. Furthermore, the study aims to determine priority directions for enhancing the effectiveness of media outlets in addressing the informational needs of rural communities and supporting sustainable agricultural development.

During the research process, an online survey was conducted among 49 farmers (37 men and 12 women) representing different regions of Azerbaijan. The survey questionnaire consisted of multiple-choice, checkbox, rating, Likert scale, and open-ended questions. Comprising 15 questions, the survey involved farmers from 12 regions. It was distributed via State Agrarian Development Centers and Regional Training Centers under the Ministry of Agriculture, as well as through leading farmers, unions, and associations. The questionnaire collected information on participants' names, age, education, and engagement in agriculture, primary sources of information, topics and usefulness of received information, application of acquired knowledge at the family, community, or environmental level, sharing of agricultural information with others, and participants' comments and recommendations.

In the study, random, stratified, and purposive sampling methods were employed. Prior to distribution, the survey questionnaire was pilot-tested among a small group of farmers, and their feedback and recommendations were systematically incorporated to optimize the questionnaire.

Studies on survey methodology among farmers indicate that farmers are willing to spend relatively little time completing mail surveys. Without compensation, the majority of crop farmers will not spend more than about ten minutes. Over one-third are unwilling to spend more than five minutes. This strongly suggests that lengthy surveys

(sent without compensation, as is the typical practice in agricultural economics) will result in low response rates and may be plagued by related response biases (Pennings, Irwin, & Good, 1999).

Agricultural surveys are usually the most difficult and complex; that single word covers a tremendous variety of activities and purposes in four ways: multi-subject, multi-method, natural conditions and cultural norms, and repeatability and periodicity. There are great differences in agricultural practices between less developed countries as well as between regions and even districts within them (FAO, 2015).

Efforts were made to cover all regions of Azerbaijan in the survey, and farmers from the districts of Aghjabadi, Aghdam, Agdash, Astara, Barda, Beylagan, Dashkasan, Goranboy, Goychay, Ismayilli, Lankaran, Oghuz, Gazakh, Guba, Shamakhi, Samukh, Shamkir, Shaki, Tartar, Kalbajar, Khachmaz, Yevlakh, and Zagatala, as well as from the Nakhchivan Autonomous Republic and the city of Ganja, participated in the survey. Regarding the regional distribution of participating farmers, the Lankaran and Shamkir districts exhibited comparatively higher representation. This outcome was primarily influenced by factors such as farmers' level of activeness, use of social media platforms, educational background, specialization, and other relevant determinants.

31 farmers with university degrees, 11 with college education, 3 with vocational education, and 4 with secondary education participated in the survey (Figure 1).

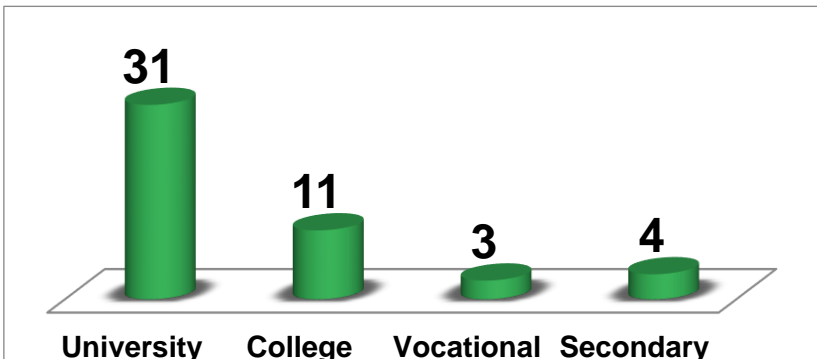


Figure 1. Education level of respondents

It can be concluded that the survey's exclusive reliance on multiple-choice, checkbox, rating, and Likert scale questions tends to constrain respondents, often leading farmers to provide standardized answers and, in some cases, resulting in deviations from actual situations. From this perspective, the inclusion of open-ended questions in the survey was identified as an essential methodological requirement.

The ages of the survey participants ranged from 22 to 70 years: 4 participants were aged 22–30, 6 were 31–35, 4 were 36–40, 9 were 41–45, 11 were 46–50, 7 were 51–55, 4 were 56–60, 2 were 61–65, and 2 were 66–70. An analysis by gender revealed that the ages of female participants ranged from 37 to 68 years.

Research Results

In Azerbaijan, the development of the information and communication technologies (ICT) sector—recognized as one of the priority areas of the non-oil economy within the framework of information society—has contributed to improved access to agricultural information and has led to significant transformations in the structure of information sources.

According to the State Statistical Committee of the Republic of Azerbaijan, during the period 2020–2024, the number of Internet users in the country increased from 1.16 million to 2.30 million, while the number of mobile phone subscribers rose from 10.3 million to 11.3 million. Consequently, the share of the information and communication sector in the national economy expanded from 1.8% to 2.1%. (AzStat, 2025)

Based on the results of the conducted survey, the structure of the main information sources utilized by farmers in the agricultural sector reveals that these sources vary depending on the nature of the information, the type of production, the farmers' age and education level, the technological processes involved, and the availability of relevant information in the respective sources.

Research findings indicate that in Azerbaijan, the main information sources accessible to farmers include the State Agrarian Development Centers, Regional Training Centers, television, information portals, social media, informal communication channels, training programs

and consultations, as well as educational and instructional materials (Table 1).

Table 1. Received information by sources and topics

Information	Number of answers	State Agrarian Development Center	Regional Training Center	TV	Newspaper/ magazine	Radio	Online informational platforms	Social media	Banners/Brochures	Books	Non-formal communication	Trainings/consult.	Don't know/ Refuse to respond
Fruit growing	17	X	X	X			X	X		X	X	X	
Subsidies	16	X	X	X			X	X	X	X	X	X	X
Protection of environment	13	X	X	X			X	X	X	X	X	X	
Agro insurance	12	X	X	X			X	X	X	X	X	X	
Climate change	12	X	X	X			X	X	X	X	X	X	
Cattle breeding	10	X	X	X			X	X	X	X	X	X	
Soil tillage	10	X	X	X			X	X	X	X	X	X	
Vegetable growing	10	X	X	X	X	X	X	X	X	X	X	X	

Cereal growing	10	X	X	X			X	X	X	X	X	X	
Beekeeping	8	X	X	X			X	X	X	X	X	X	X
Storage, package, branding	7	X	X	X			X	X	X	X	X	X	
Export markets	7	X	X	X			X	X	X	X	X	X	
Sheep breeding	6	X	X	X			X	X	X	X	X	X	
Poultry	5	X	X	X			X	X			X	X	
Cotton growing	5			X			X	X	X	X	X	X	
Finance	3	X	X	X			X	X			X	X	
Rice growing	1	X	X										
Wild crops	1						X						

The State Agrarian Development Centers (SADCs) serve as the primary institutions responsible for implementing the state's information and advisory policies in the agricultural sector at the local level. SADCs play a crucial role in delivering up-to-date information to farmers on new agricultural technologies, modern production methods, fertilization, plant protection, soil cultivation, livestock management, and irrigation systems. They also provide information on changes in agricultural policy, mechanisms of subsidization and crediting, as well as state support programs aimed at enhancing agricultural productivity and sustainability (MoA, 2018).

One of the key institutions playing a crucial role in facilitating farmers' access to information is the Agricultural Training Center of the Agrarian

Services. This institution carries out activities such as connecting agricultural training providers with farmers, promoting the dissemination of new technologies, international experience, innovations, and scientific-technical advancements among farmers, developing a database of trainers, and organizing training and information-advisory services. The Center fulfills its objectives both directly and through eight regional training centers (Agrarian Services Agency, 2025).

In recent years, the number of television and radio programs focusing on the development of the agricultural sector has been increasing. A notable example is the program “Fermerin Real Dostu — Real Friend of Farmer” broadcast on Real TV. The Press and Public Relations Department of the Ministry of Agriculture of the Republic of Azerbaijan is primarily responsible for public relations, press services, communication strategy, event organization, digital communication, as well as media monitoring and analysis. Since 2022, AgroTV has been operating in the country.

The Agrarian Innovation Center of the Ministry of Agriculture organizes a variety of activities aimed at promoting innovative agriculture, ensuring access to new technologies, fostering technological advancements and methods based on innovative solutions, and providing both methodological and practical support for the implementation of innovative technologies in the agricultural sector. Among these activities, the Center regularly hosts agribusiness festivals in the regions (Agrarian Innovation Center, 2025).

The Small and Medium Business Development Agency (SMBDA) under the Ministry of Economy is one of the main sources of agricultural information. The Agency conducts capacity-building trainings to improve practical skills across the value chain, including the preparation of business plans, cultivation, storage, packaging, and marketing of products according to agro technical standards (SMBDA, 2025).

Information portals, social media, and informal communication channels are additional key sources of agricultural information.

The Electronic Agricultural Information System (EAIS) (www.eagro.az) is a unique system that provides integration with internal and external systems and enables the creation of a comprehensive database covering a wide range of agricultural fields.

Scientific research institutes and other centers under the Ministry of Agriculture also play an important role in providing farmers with information.

In 2015, the Ministry of Agriculture, together with the Food and Agriculture Organization of the United Nations (FAO), created an information portal on agricultural prices. This portal was later updated by the Ministry and developed into the Electronic Price Information Portal for Agriculture (www.aqrarbazar.az), which is now one of the main sources of market price information.

The analysis of the structure of information obtained by respondents from various sources over the past 12 months shows that the top five topics include fruit growing, subsidies, environmental protection, agricultural insurance, and climate change. The prominence of fruit-growing information is explained by the fact that the majority of respondents are engaged in fruit production alongside other sectors, the growing importance of applying innovative technologies in this field, and the increasing necessity of implementing measures against diseases and pests, among other factors (Figure 2).



Figure 2. Recieved information from sources in the past 12 months

As previously noted, agricultural producers are exempt from all types of taxes except the land tax and are provided with direct and indirect subsidies. The declaration of subsidies for arable land, crops, seeds, calves, and other purposes through the Electronic Agricultural System is not only one of the main requirements but also the regular updating of subsidy rates increases the importance of this information for farmers (Agrarian Credit and Development Agency, 2020).

The payment of 50% of agricultural insurance premiums by the state, along with the significant increase in the number of farmers benefiting from this concession, has also raised the demand for information regarding agricultural insurance regulations. The primary sources of information on agricultural insurance include the websites and social media pages of the Agricultural Insurance Fund, television and radio

programs, as well as training sessions and awareness-raising events organized by the Fund (Agricultural Insurance Fund, 2019).

Azerbaijan, as one of the countries affected by the negative impacts of global climate change, has seen an increased demand for information on this topic, alongside other measures such as the effective use of water resources. In 2023, water consumption in the country amounted to 9,772 million cubic meters, of which 7,239 million cubic meters, or 74.1 percent, were allocated to irrigation and agricultural supply. An overview of the average annual precipitation indicates that it was 540.3 mm in 2002, 499.8 mm in 2010, 472.6 mm in 2015, 445.5 mm in 2020, and 481.2 mm in 2023. Regarding the average annual air temperature, the corresponding values for these years were 12.3°C, 14.4°C, 13.6°C, 13.8°C, and 14.7°C, respectively. Thus, on one hand, the decline in atmospheric precipitation, and on the other, the increase in average annual temperature, necessitate the promotion of efficient use of water resources (Hatamov, 2025).

Key information obtained also pertains to technological processes related to livestock production, land cultivation, and crop production, as well as the storage, packaging, branding, export, finance, and other related aspects of agricultural activities.

Trainings organized by public and private entities are also among the main sources of information. Leading consulting companies, individual consultants, laboratories, and specialists from input supply and processing companies are included among these information sources.

Regarding the usefulness of the information obtained, 55% of respondents reported it as very useful, 12% as mostly useful, 25% as useful, and 8% as slightly useful. None of the respondents indicated that the information was completely useless (Figure 3).

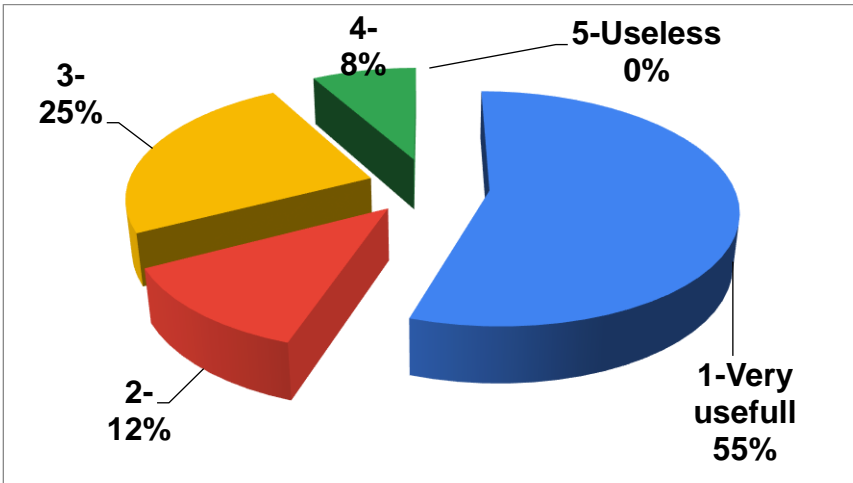


Figure 3. Usefulness level of received information

Question: Overall, on a 5-point scale, how useful was the information you received, where 1 means "very useful" and 5 means "not useful at all"?

Respondents who indicated that the information was "very useful" emphasized that they primarily obtained it from the State Agrarian Development Centers and Regional Training Centers. This information covered topics such as subsidies and concessions, agricultural insurance, fruit growing, vegetable production, land use, livestock farming, sheep breeding, poultry farming, beekeeping, cereal cultivation, cotton production, and other related areas.

Farmers who responded that the information was "mostly useful" also reported that they primarily obtained it from the State Agrarian Development Centers and Regional Training Centers. In this case, topics such as subsidies and concessions, agricultural insurance, beekeeping, livestock farming, poultry production, land use, and climate change were predominant.

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topics such as subsidies and concessions, agricultural insurance, beekeeping, livestock farming, poultry production, land use, and climate change were predominant.

Those who stated that the information was “less useful” emphasized that they mainly obtained it from social networks, online information portals, trainings, and advisory services. It was thus concluded that information obtained from institutions subordinate to the Ministry of Agriculture was considered more useful and covered topics such as subsidies and concessions, agricultural insurance, fruit growing, vegetable production, land use, livestock farming, sheep breeding, poultry farming, beekeeping, cereal cultivation, cotton production, and other related areas.

Regarding the application of the acquired knowledge in their family agricultural practices, 85.7% of respondents (42 farmers) answered “yes,” 4.1% (2 farmers) “no,” and 10.2% (5 farmers) responded “I don’t know / refuse to answer.” Among the farmers who answered “no,” 50% stated that they obtained the information from online platforms and social networks, while the remaining respondents indicated that they received it from the State Agrarian Development Centers and Regional Training Centers. The topics covered in this regard include cotton production, grain cultivation, cattle breeding, sheep farming, beekeeping, and others.

The extent to which the implementation of new practices derived from the obtained information contributes to or adversely affects farming is one of the issues of significant importance for farmers.

In response to the question, “Overall, has the implementation of the new practice brought benefits or harm to your family/community/environment?” 86% of the respondents (42 farmers) indicated that the new practice was beneficial, 4% (2 farmers) answered “had no effect,” 2% (1 farmer) stated that “the new practice caused harm,” and 8% (4 farmers) did not know or refused to answer (Figure 3).

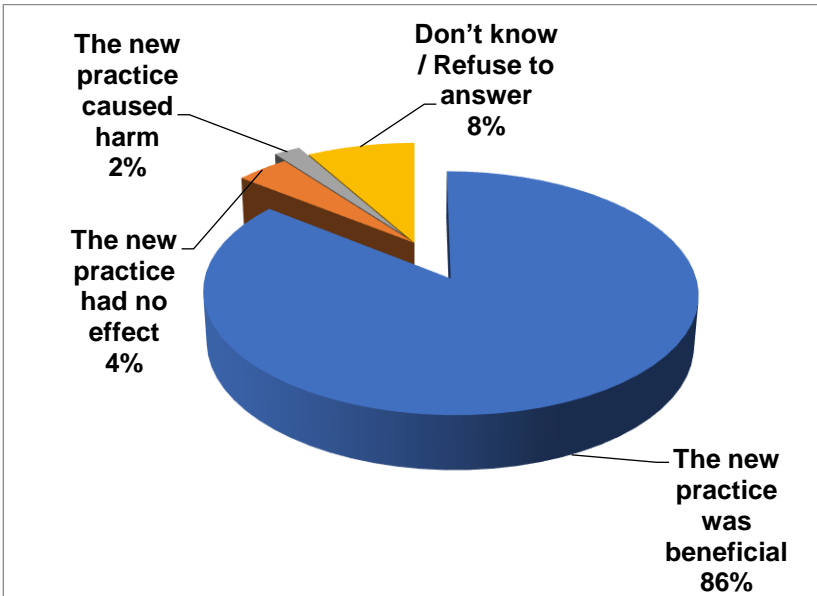


Figure 3. Perceived benefits or adverse effects of the new practice on the family, community, and environment.

Farmers who reported that the new practice had no effect stated that they obtained information on topics such as cotton growing, land use, livestock, sheep breeding, beekeeping, and export markets through social media, online platforms, television, and informal communication channels.

The sharing of acquired information is one of the key factors significantly influencing the outcomes of farmers' activities. In particular, farmer-to-farmer experience exchange is often considered a more reliable source of information. For instance, the farmlands of high-performing farmers frequently serve as demonstration sites, providing valuable information, knowledge, and experience for other farmers (Wesierski, Hatamov, Ilyasov, & Korchiyev, 2023).

Of the surveyed farmers, 94% (46 farmers) reported that they shared the information they obtained with others, such as neighbors, friends, and relatives. Meanwhile, 4% (2 farmers) stated that they did not share the information, and 2% (1 farmer) did not respond to the question.

Naturally, the unwillingness to share obtained information is mainly characteristic of competitive environments and rival farmers.

The level of trust in information sources depends on the outcomes achieved through the application of the acquired knowledge. In response to the question, “Tell us more about how the acquired knowledge/practice was useful to you,” 26.5% of the respondents (13 farmers) stated that it led to an increase in productivity (Figure 4).

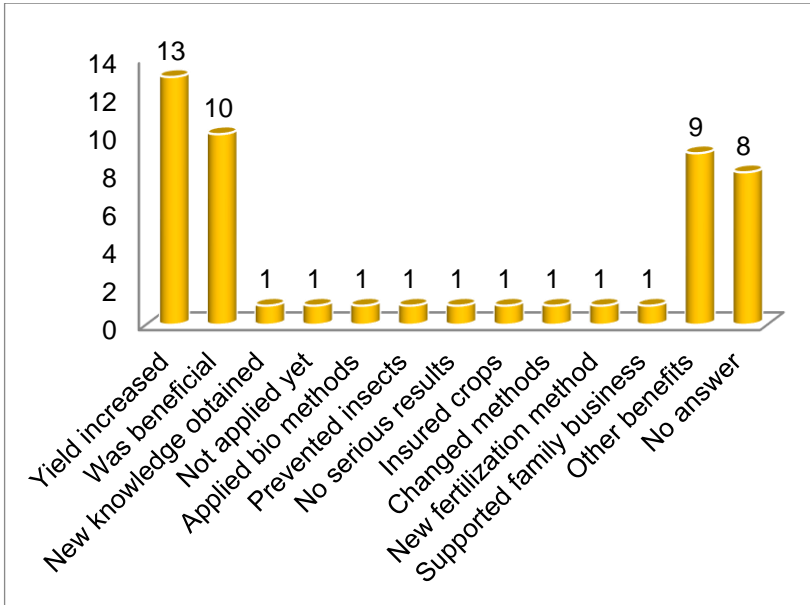


Figure 4. Benefits of acquired knowledge/practice

Of the respondents, 20.4% (10 farmers) stated that the acquired knowledge and skills were generally useful, 18.4% (9 farmers) mentioned other benefits, and 16.3% (8 farmers) did not respond to the question. Other respondents emphasized that the new knowledge contributed to acquiring new skills, applying biotechnological methods, preventing pests, obtaining insurance, implementing new fertilization methods, and supporting family businesses.

In the recommendations section of the survey, the respondent farmers considered it extremely necessary to organize regular practical

trainings, establish demonstration plots for comparison, and expand advisory services. According to them, these measures would help farmers become familiar with new technologies and innovative methods, facilitate experience sharing, and increase production efficiency.

Conclusions and Recommendations

In Azerbaijan, agriculture, as one of the main non-oil sectors, plays an important role in diversifying the economy and reducing dependence on the oil industry. From this perspective, government support for the sector is substantial, and media coverage of agricultural topics is extensive.

Research indicates that farmers' access to agricultural information is multifaceted and influenced by various factors, including their field of activity, age, gender, level of access to information and communication technologies, knowledge and skills in this area, the nature of the subject matter, and other socio-economic indicators.

Media coverage of agricultural topics in the country includes both public and private media outlets. Among public media, the Public Relations and Information Supply Department of the Ministry of Agriculture, along with other agencies such as the Agrarian Services Agency, Agrarian Innovation Center, and Agrarian Credit and Development Agency, are key players in informing farmers about agricultural issues, government programs, innovations and technologies, market trends, challenges, and good agricultural practices. In addition, television and radio programs play a significant role as primary sources of information for farmers. According to survey results, the information that farmers obtain from the relevant state institutions is primarily related to subsidies, concessions, insurance, and registration procedures.

The expansion and intensification of television and radio broadcasts dedicated to agricultural topics at both national and regional levels are regarded as key priorities. It should be emphasized that substantial efforts are being undertaken in Azerbaijan to align economic broadcasting programs with contemporary requirements, with

concrete measures aimed at producing content that addresses the needs of economists and audiences interested in economic affairs. Although Agro TV contributes significantly to enhancing public awareness and knowledge in the field of agricultural economics, there remains a pressing need to strengthen and further develop its professional and human resource base (Huseynova, 2024).

One of the key directions for addressing existing challenges in this field is the development of agricultural journalism. In this context, one of the projects implemented in Azerbaijan was the “Agricultural Journalism Specialization” initiative, organized by the Agro Volunteers Organization, with financial support from the Youth Foundation and in partnership with the Ministry of Agriculture. Within the framework of the project, participants were trained on topics such as “The Role of Social Media in Agriculture,” “Fundamentals of Journalism,” “Crop Production,” “Animal Husbandry,” “Efficient Use of Land,” “Data Analytics and E-Agriculture,” “State Support for Agriculture,” and “Agricultural Employment and Agricultural Loans.” The project aimed to increase youth interest in digital media, identify existing needs in the agricultural sector, contribute to the sustainable development of agricultural journalism, and support the production of more competent and professional articles related to the agricultural field (MoA, 2019).

Another initiative in this direction was the “AQRO Social Media Marketing – AQRO SMM” project, organized by the Agro Development Volunteers Organization, financially supported by the State Support Council for Non-Governmental Organizations under the President of the Republic of Azerbaijan, and implemented in partnership with Agrarian Procurement and Supply JSC. The project aimed to enhance the knowledge and skills of youth in the agricultural sector, with a particular focus on social media and marketing competencies (MoA, 2021).

Certainly, while initiatives of this nature contribute to addressing some of the challenges in agricultural journalism, the establishment of specialized programs within higher education institutions remains a critical issue. Specifically, there is a pressing need to train professionals capable of producing television and radio programs that

are accessible and comprehensible to the farming audience. It should be noted that in Azerbaijan, the training of specialists in all agricultural programs is fully funded by the state. From this perspective, state-supported education for agricultural journalists could further stimulate interest in the field. In countries such as the United States, Canada, Australia, the United Kingdom, and others, several higher education institutions offer graduate-level programs dedicated to agricultural journalism.

The specific characteristics of agriculture and the fact that technological processes require certain practical skills increase the demand for hands-on training among information sources. Survey results also indicate that the organization of practical training was particularly emphasized in farmers' recommendations. Although the COVID-19 pandemic led to the expansion of online training, it has not diminished the importance of in-person practical sessions and demonstrations, especially for technological processes such as crop fertilization, artificial insemination of livestock, and similar practices. Since the training programs organized by the Agrarian Training Center of the Agrarian Services Agency under the Ministry of Agriculture, the State Agrarian Development Centers, Azerbaijan State Agricultural University, and relevant research institutes and centers do not fully meet farmers' needs, promoting the involvement of private consultancy firms and individual agricultural advisors in the process remains a priority issue.

Strengthening agricultural advisory services through the development of mobile applications, implementation of extension campaigns to ensure mass communication, preparation of knowledge and communication products (brochures, videos, TV programs), establishment of commodity-based agricultural advisory platforms and demonstration plots, enhancing cooperation between agricultural advisory services and agricultural research for joint resource mobilization to improve service quality and technological relevance, the development of a research–university–farm chain, and other measures are among the key priorities for media coverage of agricultural topics in Azerbaijan.

Thus, farmers' access to agricultural information in Azerbaijan is diversified. Small-scale farmers and household farms dominate the agricultural system, and they mainly rely on online platforms, as well as the Regional Agrarian Development Centers and Regional Training Centers under the Ministry of Agriculture, as their primary sources of information. Farmers' preferred sources of information are influenced by their specialization, age, education level, and the nature of the problem. The main sources of information on subsidies, agricultural insurance, and concessions are institutions under the Ministry of Agriculture. The majority of farmers report that the information they obtain is useful and that they share it with their relatives, neighbors, and friends. In addition to official sources, online platforms and social networks are widely used, while newspapers, journals, brochures, and books have the smallest share in the structure of information sources and other related characteristics.

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Media Coverage of Agriculture in Armenia Institutional Barriers, Resource Constraints, and Information Gaps

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Abstract

The agricultural information ecosystem in Armenia faces significant structural challenges that limit the availability and accessibility of reliable information for rural communities. This study examines the institutional, professional, and informational barriers that shape agricultural journalism and influence the flow of agricultural knowledge to farmers. Using a mixed-methods approach, the research combines qualitative interviews with agricultural journalists, investigative reporters, media founders, and farming entrepreneurs with a survey of farmers from multiple regions of Armenia assessing their access to and use of agricultural information.

The qualitative analysis identifies five interconnected barriers affecting agricultural media coverage: the erosion of institutional support mechanisms, political agenda-setting that marginalizes rural issues, chronic resource scarcity within media organizations, restricted access to governmental agricultural data, and the limited availability of specialized agricultural journalism expertise. Complementary findings from the farmer survey reveal significant gaps between the information needs of rural producers and the content currently provided by media outlets. While farmers actively seek agricultural information and often share knowledge within their communities, they report uneven access to reliable and practical guidance.

The study demonstrates that the limitations of agricultural journalism in Armenia extend beyond economic constraints and reflect broader

institutional and policy-level failures in the agricultural information system. Addressing these challenges requires systemic intervention, including strengthening institutional support for agricultural reporting, improving access to public agricultural data, developing specialized journalistic capacity, and supporting sustainable media coverage of rural and agricultural issues.

Keywords: *agricultural journalism, rural information ecosystem, media institutions, agricultural information access, farmer knowledge networks, agricultural policy communication*

Introduction

Agriculture remains an important component of Armenia's rural economy and livelihood system, yet the circulation of reliable agricultural information within the country remains limited and uneven. Farmers require timely and practical knowledge on production techniques, market conditions, agricultural policies, and available support programs in order to make informed decisions. At the same time, media institutions play an important role in translating complex sectoral developments into accessible public information. However, in Armenia the agricultural information environment appears fragmented, with limited interaction between farmers, journalists, and public institutions responsible for agricultural policy and knowledge dissemination.

Over the past decade, the agricultural sector in Armenia has faced a number of structural challenges. These include regional crop concentration leading to market saturation, persistent irrigation infrastructure problems, the gradual aging of the rural population, and declining participation of younger generations in agricultural work. Another frequently discussed issue is the limited availability of extension services that traditionally connected farmers with technical expertise and practical advice. In this context, the availability of clear and accessible agricultural information becomes particularly important for rural communities.

Despite these needs, public communication about agriculture remains relatively limited. Media coverage of agricultural issues often appears

episodic and event-driven rather than systematic, while rural communities frequently report difficulties in accessing reliable and practical information about agricultural programs, innovations, and policy developments. This raises broader questions about the functioning of the agricultural information ecosystem and the role of media institutions within it.

To explore these issues, this research examines how agricultural information is produced, mediated, and accessed in Armenia. The study draws on qualitative interviews with key stakeholders representing different positions within the agricultural information ecosystem. Participants include agricultural journalists, investigative reporters, media founders working on rural and development issues, regional television journalists, and farming entrepreneurs involved in knowledge-sharing initiatives. These interviews provide insight into the institutional and professional dynamics that shape agricultural media coverage.

In addition to qualitative interviews, the study incorporates survey data collected from farmers in several regions of Armenia. The survey explores farmers' primary sources of agricultural information, their assessment of the usefulness of available information, and the extent to which acquired knowledge is applied in practice and shared within farming communities. Integrating perspectives from both media professionals and farmers allows the research to examine the agricultural information ecosystem from both the supply and demand sides.

The analysis identifies several structural factors that influence the quality and availability of agricultural information in Armenia. These include institutional changes within the agricultural governance system, limited financial and human resources within media organizations, restricted access to reliable agricultural data, and the absence of specialized training in agricultural journalism. Rather than operating independently, these factors interact with one another and collectively shape the ability of journalists to cover agricultural issues in a consistent and informative manner.

By examining these interconnected dynamics, the study aims to contribute to a better understanding of how agricultural information circulates within Armenia’s rural communication environment. The findings highlight the importance of strengthening institutional support for agricultural knowledge dissemination, improving access to agricultural data, and enhancing journalistic capacity to cover rural and agricultural issues in a systematic and accessible way.

Research Methodology

This study applies a mixed-methods research design combining qualitative interviews with media and agricultural sector stakeholders and quantitative survey data collected from farmers in different regions of Armenia. The purpose of this approach is to examine the agricultural information ecosystem from both the perspective of information producers—such as journalists and media organizations—and information users, particularly farmers who rely on agricultural knowledge for their daily practices.

Qualitative Component: Interviews

The qualitative component of the study is based on semi-structured interviews conducted with five purposively selected participants who represent key positions within Armenia’s agricultural information environment. The selection of participants aimed to capture diverse institutional perspectives, including national media, investigative journalism, regional broadcasting, and agricultural entrepreneurship. This purposive sampling strategy enabled the research to explore how agricultural information is produced, interpreted, and communicated across different professional contexts.

The participants included a national television journalist with formal education in agriculture working on the Public Armenian Television channel; an investigative journalist with more than two decades of experience covering agricultural issues for the investigative media platform Hetq; the founder and director of Tavush Media, a regional media organization focusing on development and agricultural reporting; a regional television journalist working in the agriculturally significant Armavir region; and a farmer-entrepreneur in the

Gegharkunik region managing demonstration farms and extension-oriented initiatives. Together, these participants provided perspectives from both media professionals and agricultural practitioners involved in knowledge dissemination.

Data Collection

Semi-structured interviews were conducted in Armenian and lasted between 45 and 90 minutes. The interview guide included several thematic areas related to agricultural journalism and information circulation. These themes included the professional trajectories of agricultural journalists, current responsibilities and coverage practices, challenges in covering agricultural issues, institutional and resource constraints within media organizations, access to official information sources, and perceptions of audience engagement and future priorities in agricultural reporting.

The semi-structured format allowed respondents to elaborate on their experiences while maintaining comparability across interviews. All participants were informed about the purpose of the research and provided consent to participate. Interviews were audio-recorded with permission and subsequently transcribed for analysis.

Data Analysis

Interview transcripts were analyzed using thematic analysis. The analysis focused on identifying recurring patterns related to the structural conditions that shape agricultural journalism in Armenia. Particular attention was given to identifying barriers that limit the production of consistent and informative agricultural coverage.

The coding process focused on several analytical dimensions, including barriers to agricultural reporting, recurring institutional challenges across media organizations, relationships between different constraints affecting journalistic work, and broader structural factors such as policy priorities, institutional arrangements, and resource limitations. Rather than treating interview responses solely as individual experiences, the analysis examined how the reported challenges reflect broader systemic conditions affecting agricultural communication.

Quantitative Component: Farmer Survey

To complement the qualitative insights from media professionals, the study incorporates survey data collected from farmers across multiple regions of Armenia. The survey aimed to examine farmers' access to agricultural information, the perceived usefulness of available information sources, and the extent to which agricultural knowledge is applied in practice and shared within farming communities.

A structured questionnaire was distributed to farmers engaged in agricultural activities. The survey collected demographic information such as age, gender, region, and municipality, as well as data on farmers' primary sources of agricultural information, topics on which they receive information, and their evaluation of the usefulness of such information. Additional questions explored whether farmers apply the acquired knowledge in their agricultural practices, the outcomes of such applications, and whether information is shared with other farmers within local networks.

The survey data provide an important perspective on the demand side of the agricultural information ecosystem and allow the study to compare farmers' information needs with the perspectives of media professionals involved in agricultural reporting.

Limitations

Several limitations should be acknowledged. First, the qualitative component of the study relies on a relatively small number of interviews, which limits the generalizability of findings and reflects the perspectives of selected stakeholders rather than the entire agricultural media community. Second, the research focuses specifically on Armenia's institutional and media environment, meaning that the findings may not be directly transferable to other national contexts with different agricultural governance structures.

Third, as in most qualitative research, the interpretation of interview data is influenced by the analytical framework used by the researcher. Alternative analytical approaches might lead to different interpretations of the same data. Finally, the research reflects conditions at a particular moment in time, and future institutional or

policy changes could alter the dynamics of agricultural information dissemination.

Despite these limitations, the mixed-methods design allows the study to combine in-depth qualitative insights with empirical data from farmers, providing a more comprehensive understanding of the agricultural information ecosystem in Armenia.

Research Findings

Finding 1: Institutional Breakdown as a Failure of Agricultural Information Infrastructure

The interviews consistently indicate that institutional restructuring within Armenia's agricultural governance system has had significant consequences for the circulation of agricultural information. In particular, respondents frequently referred to the abolition of the Ministry of Agriculture and the closure of the Regional Agricultural Support Centers (GAMK) as turning points that disrupted previously existing channels of communication between policymakers, journalists, and farmers.

Participants emphasized that these institutions served not only administrative functions but also operated as central nodes within the agricultural information ecosystem. The former Ministry of Agriculture functioned as a focal point for sectoral coordination and public communication. Journalists covering agricultural issues regularly interacted with ministry officials, sometimes through formal briefings or thematic meetings, which created opportunities to identify emerging policy issues and connect with sector specialists. Such interactions also provided journalists with institutional entry points for investigating agricultural problems and bringing them into public debate.

At the regional level, the Regional Agricultural Support Centers played a complementary role. These centers acted as intermediaries between farmers, state institutions, and knowledge providers such as research institutes and agricultural specialists. They facilitated access to advisory services, organized training activities, and supported local knowledge networks that helped farmers respond to production challenges. Their presence also provided regional journalists with

local sources of expertise and practical examples of agricultural innovation or difficulty.

Interview participants described the dismantling of these institutions as a form of infrastructure loss within the agricultural information system. As Grigoryan explained, the previous institutional structure provided journalists with identifiable contact points and clear lines of responsibility. With agricultural governance now distributed across multiple ministries and agencies, responsibility for agricultural communication has become fragmented. As a result, journalists must rely increasingly on informal personal networks when seeking information, and the process of gathering reliable data has become more time-consuming and uncertain.

The implications of this institutional fragmentation are particularly visible in investigative reporting. Balasanyan noted that investigative inquiries related to agricultural policies often require repeated requests to multiple government agencies in order to assemble even partial information. Without a central ministry responsible for the agricultural sector, accountability mechanisms become less transparent and institutional knowledge becomes dispersed across agencies that may not prioritize agricultural communication.

These institutional changes affect not only journalists but also farmers' access to information. Survey data collected from farmers across several Armenian regions reinforce the perception that institutional support for agricultural information has weakened. A substantial proportion of surveyed farmers reported difficulties in accessing clear and reliable information about agricultural programs, subsidies, and technical recommendations. Many respondents indicated that they rely primarily on informal sources of information, including neighboring farmers or personal networks, rather than official advisory structures.

This finding highlights a broader transformation in the agricultural information ecosystem. Whereas earlier institutional arrangements created structured channels for knowledge exchange among policymakers, journalists, and farmers, the current system appears more fragmented and decentralized. In the absence of institutional

coordination, information flows increasingly depend on individual initiative rather than structured communication mechanisms.

Finding 2: Political Agenda-Setting and the Marginalization of Agricultural Issues

The interviews indicate that agricultural journalism in Armenia operates within a broader media environment shaped by political agenda-setting and editorial prioritization. In such an environment, topics that dominate political discourse or generate immediate public attention often receive significantly greater media visibility than sectoral issues such as agriculture. As a result, agricultural reporting frequently becomes episodic and secondary to political news coverage.

Several interview participants noted that the daily news agenda in Armenia is heavily influenced by statements and activities of political leaders. Balasanyan described this dynamic by noting that the political agenda often determines which issues dominate the news cycle, while structural problems in sectors such as irrigation management, land cultivation, agricultural marketing, soil salinization, and rural infrastructure receive comparatively limited attention. According to this perspective, journalists frequently respond to politically driven events rather than independently shaping the public agenda around long-term social and economic issues.

This dynamic affects the visibility of agricultural issues in the media landscape. When political developments dominate the national news cycle, other topics—including agriculture—tend to receive minimal coverage. Interviewees observed that during periods of political tension, border conflicts, or major political announcements, agricultural stories often disappear entirely from news coverage, even when rural communities continue to face persistent economic and environmental challenges.

A frequently cited example concerns the contrast between crime reporting and agricultural reporting in rural communities. Journalists described situations in which incidents such as violent crimes in rural villages receive extensive national coverage, while ongoing

agricultural problems affecting the same communities remain largely invisible in national media. For example, in the village of Merdzavan journalists documented a homicide investigation in detail and generated substantial media attention. However, long-standing agricultural issues in the same community—including damaged rural roads that prevent farmers from accessing fields, irrigation shortages, and large areas of uncultivated land—have received little sustained media attention.

These observations suggest that news selection in agricultural reporting is shaped not only by the objective importance of an issue but also by perceptions of newsworthiness and immediacy. Political developments tend to generate rapid audience engagement, particularly on digital platforms where social media interactions and algorithmic amplification favor highly visible political events. Agricultural topics, by contrast, are often perceived as less immediate and therefore less competitive within the daily news cycle.

The farmer survey conducted as part of this research provides an important complementary perspective. While journalists describe agriculture as a topic that struggles to compete with political news in editorial priorities, many farmers report a strong need for reliable information related to agricultural production, government programs, and market conditions. Survey responses indicate that farmers actively seek information from a variety of sources, including television, social media, neighboring farmers, and agricultural specialists. This suggests that the limited presence of agricultural reporting in the media agenda may not reflect a lack of audience demand but rather editorial assumptions about audience engagement.

Taken together, these findings point to a structural mismatch between the information needs of rural communities and the priorities of contemporary news production. Political agenda-setting shapes media visibility, while agricultural issues often require long-term, explanatory, and solution-oriented reporting that does not easily align with the fast-paced dynamics of daily political news cycles.

Finding 3: Resource Scarcity and Economic Constraints on Agricultural Journalism

Interview participants repeatedly emphasized that economic constraints represent one of the most persistent structural challenges for agricultural journalism in Armenia. Limited financial resources within media organizations influence editorial decisions, reporting priorities, and the overall capacity to cover complex sectors such as agriculture.

Several respondents described how financial pressures shape the allocation of journalistic resources. Media outlets operating in a competitive digital environment often prioritize content that generates high audience engagement and advertising revenue. According to Mirzoyan, agricultural stories typically attract lower levels of audience engagement compared with politically controversial or sensational topics. As a result, editorial teams frequently allocate limited reporting resources to subjects that are more likely to generate online views, social media interactions, and advertising income.

This dynamic reflects broader transformations in the economic structure of the Armenian media sector. Interview participants noted that the withdrawal or reduction of international donor funding—particularly from American media support programs—has significantly affected the financial sustainability of many media outlets. Previously, such funding made it possible for journalists to produce specialized content, including coverage of rural development and agricultural issues, even when these topics did not generate strong commercial returns. With the decline of this external support, many media organizations have been forced to reduce field reporting and concentrate resources on content that is economically viable in the digital media market.

These economic pressures are particularly visible in regional media outlets. Unlike large national media organizations based in Yerevan, regional outlets operate within much smaller advertising markets and often rely on local authority support or limited regional funding sources. This financial environment may influence editorial independence and restrict the ability of regional journalists to conduct

in-depth investigative reporting on agricultural issues. Stepanyan's experience at ALT TV illustrates these challenges. Limited staff numbers, restricted travel budgets, and limited logistical resources constrain the ability of journalists to regularly visit rural communities or conduct extended reporting projects in remote agricultural areas.

Reporting on agricultural issues frequently requires additional logistical investments compared to urban reporting. Journalists covering rural topics may need to travel to distant villages, spend extended time observing agricultural practices, and consult multiple experts in order to produce accurate and informative stories. In resource-constrained media environments, such investments can be difficult to justify when compared with more easily produced content that attracts larger audiences.

The experience of Tavush Media illustrates both the constraints and potential alternatives within this landscape. Supported partly through international donor programs, the outlet has been able to maintain a degree of editorial independence and produce specialized reporting on agricultural and regional development issues. However, interview participants emphasized that such funding models remain uncertain and dependent on external support. If donor funding declines, media organizations that rely on such support may face immediate operational constraints.

Survey results from farmers further illuminate the consequences of these structural limitations. Farmers report relying on multiple informal and semi-formal information sources, including neighboring farmers, social networks, and personal contacts with agricultural specialists. While media outlets remain one source of agricultural information, they do not represent the primary channel through which many farmers obtain practical advice. This pattern suggests that limited journalistic coverage of agriculture contributes to a broader diversification of information channels within rural communities.

Taken together, these findings highlight how economic pressures within the media sector shape the visibility of agricultural issues in the public sphere. Financial constraints influence not only how frequently

agricultural topics are covered but also the depth and quality of reporting that journalists can realistically produce.

Finding 4: Barriers to Information Access and Limited Availability of Agricultural Data

In addition to economic constraints, interview participants consistently emphasized limited access to reliable agricultural data as a significant obstacle to effective agricultural journalism. Journalists noted that information that should normally be publicly accessible is often difficult to obtain, delayed, or provided only in incomplete form. These challenges complicate the production of evidence-based reporting and reduce the ability of journalists to investigate structural problems within the agricultural sector.

Investigative journalists described the process of obtaining official information as time-consuming and uncertain. Balasanyan explained that formal requests for information frequently require multiple follow-up submissions in order to receive even partial responses. According to his experience at the investigative platform Hetq, responses from government institutions often arrive in fragmented form, requiring journalists to assemble information from several different sources before a coherent picture of a policy or program can be constructed.

One example frequently cited by respondents concerns transparency in agricultural markets. For many years, the Ministry of Agriculture publicly released information regarding which wineries owed payments to grape producers for purchased harvests. This data allowed farmers to better understand market dynamics and helped journalists report on accountability issues within the agricultural value chain. However, after journalists began using the information in investigative reporting, access to the data was restricted and reclassified as a “trade secret.” As a result, journalists were no longer able to obtain this information through official channels.

Participants also highlighted broader limitations within existing government transparency mechanisms. Armenia’s public procurement platform, which is intended to provide open access to government contracts, often contains incomplete data or missing

documentation. When journalists inquire about these gaps, responsibility is frequently shifted between institutions. For example, the Ministry of Finance, which administers the procurement system, typically states that it publishes only the information submitted by procuring authorities. As a result, no single institution assumes responsibility for ensuring the completeness and accessibility of publicly available procurement information.

Another challenge identified in the interviews concerns the lack of systematic agricultural data collection and analysis. Grigoryan observed that the former Ministry of Agriculture regularly produced analytical reports, statistical summaries, and sector forecasts that helped journalists understand broader trends within the agricultural economy. In the current institutional structure, where responsibilities for agricultural governance are distributed across multiple agencies, similar analytical outputs are less consistently produced. This absence of structured data infrastructure makes it more difficult for journalists to contextualize individual events within wider agricultural trends.

In response to these limitations, journalists increasingly rely on alternative information-gathering strategies. These include direct communication with farmers, informal conversations with agricultural specialists, and the analysis of scattered data available through public records or previous media reports. While such approaches allow journalists to continue reporting on agricultural issues, they often result in stories that are more anecdotal and event-driven rather than systematically supported by comprehensive datasets.

The lack of reliable and accessible agricultural data also limits the potential for investigative journalism. Reporting on agricultural subsidy programs, for example, requires access to detailed information on program budgets, recipient lists, and program outcomes. Similarly, analysis of land use patterns requires cadastral records and cultivation data, while evaluation of agricultural productivity depends on access to yield statistics, input costs, and market prices. Without access to such information, journalists face significant obstacles in conducting rigorous investigations that could inform public debate and support farmer decision-making.

Findings from the farmer survey further illustrate the consequences of these information barriers. Many farmers reported difficulties in accessing reliable and timely information regarding agricultural programs, technical recommendations, and market conditions. As a result, farmers often rely on informal communication networks, including neighboring farmers and local agricultural practitioners, to obtain practical knowledge. While these networks can facilitate knowledge exchange within rural communities, they cannot fully substitute for transparent institutional information systems.

Taken together, these findings suggest that the challenges facing agricultural journalism are closely linked to broader issues of data transparency and institutional communication. When public institutions do not consistently produce and disseminate accessible agricultural data, journalists are limited in their ability to provide evidence-based reporting, and farmers face additional barriers in accessing the information necessary for informed agricultural decision-making.

Finding 5: Knowledge Gaps and the Limited Development of Agricultural Journalism

Interview participants consistently highlighted the absence of systematic professional development in agricultural journalism as an important structural barrier affecting the quality and depth of agricultural media coverage in Armenia. Agricultural reporting requires specialized knowledge that extends beyond general journalistic skills, yet opportunities for journalists to develop such expertise remain limited.

Agriculture is a complex sector that involves technical knowledge in areas such as plant protection, soil management, irrigation systems, agricultural economics, market dynamics, and food safety. Effective coverage of agricultural issues often requires the ability to interpret scientific information, evaluate policy claims, and translate technical knowledge into accessible language for broader audiences. However, interview participants noted that most journalists covering agriculture do not receive formal training in these domains.

Among the interview participants, Mirzoyan represents an exception. In addition to her work as a television journalist, she holds an academic background in agricultural studies, which enables her to interpret technical information and engage directly with agricultural specialists. Participants emphasized that such dual expertise remains rare in Armenian media. Most journalists encounter agricultural topics without prior sectoral knowledge and must navigate unfamiliar terminology, policy frameworks, and technical issues while preparing their reports.

Interviewees also noted the absence of structured professional development opportunities that could help journalists acquire agricultural knowledge. While occasional short-term initiatives exist—such as media tours organized by sector organizations like the Wine Foundation—these activities tend to be sporadic and limited in scope. According to Mirzoyan, such events provide valuable exposure but do not constitute a systematic approach to building journalistic expertise in agriculture.

More comprehensive capacity-building programs for agricultural journalism appear largely absent. Participants reported that Armenia currently lacks specialized fellowships, training programs, or collaborative initiatives that connect journalists with agricultural researchers, extension specialists, or policy experts. Without such institutional support, journalists covering agricultural issues often rely heavily on official sources or press releases, which can limit their ability to critically evaluate policy claims or independently analyze sector developments.

The absence of domain expertise also affects the ability of journalists to identify broader structural patterns within agricultural problems. When reporters lack familiarity with agricultural science or agricultural economics, they may find it difficult to assess the credibility of official statements, recognize inconsistencies in policy narratives, or situate individual farmer experiences within wider sectoral trends. As a result, agricultural stories may remain descriptive rather than analytical.

Participants further emphasized that the shortage of expertise extends beyond journalism and reflects wider challenges within the agricultural

sector itself. Mirzoyan pointed to broader human capital shortages, noting that the average age of veterinarians in Armenia has risen significantly and that agricultural faculties at universities attract relatively few students. This situation reduces the pool of experts available to journalists seeking professional commentary on agricultural issues.

The decline of agricultural extension services has also contributed to this knowledge gap. Extension specialists traditionally served as intermediaries between scientific research and farming practice, helping both farmers and journalists interpret technical developments in the sector. With fewer extension professionals available, journalists often lack accessible expert sources who can help translate complex agricultural topics into publicly understandable information.

Editorial structures within media organizations may further reinforce these limitations. News editors without agricultural background knowledge may underestimate the broader social and economic importance of agricultural reporting or perceive such stories as overly technical for general audiences. In some cases, agricultural topics are treated as niche or specialized content rather than as issues with significant implications for national economic development, food security, and rural livelihoods.

The farmer survey conducted for this study provides additional insight into this knowledge gap. Survey responses indicate that farmers actively seek practical agricultural information, particularly regarding production methods, pest management, weather conditions, and government support programs. However, respondents frequently reported that the available information is fragmented, difficult to interpret, or insufficiently adapted to farmers' everyday decision-making needs.

These findings suggest that strengthening agricultural journalism requires not only improvements in institutional support and information access but also targeted investments in professional capacity building. Developing training programs, fellowships, and collaborative initiatives that connect journalists with agricultural experts could significantly

improve the depth and analytical quality of agricultural media coverage.

Finding 6: Farmer Information Deficit and the Limitations of Practical Agricultural Journalism

Interview participants emphasized that despite individual efforts by journalists to increase agricultural coverage, rural communities in Armenia continue to face significant informational gaps regarding agricultural practices, available programs, and sector developments. Several respondents noted that the type of information typically provided through media coverage does not always correspond to the practical needs of farmers who rely on timely and actionable knowledge for everyday agricultural decision-making.

From the perspective of farmers themselves, access to practical information remains a central concern. Khachatryan, a farmer-entrepreneur involved in demonstration farming and agricultural knowledge sharing, emphasized that farmers require concrete, operational information rather than general news about the agricultural sector. According to his observations, farmers are primarily interested in timely updates regarding subsidy programs, weather conditions, pest outbreaks, market prices, and effective production techniques that can directly influence their agricultural practices.

However, agricultural journalism often focuses on policy announcements, official statements, or isolated success stories rather than providing continuous practical guidance. While such coverage contributes to public awareness about agricultural policy developments, it does not necessarily meet the day-to-day informational needs of farmers managing production risks and market uncertainties.

Mirzoyan's reporting experience provides an important example of this gap. One of her agricultural video reports attracted approximately half a million views within a single day, demonstrating that agricultural topics can generate significant public interest when presented in a compelling and practical format. At the same time, she noted that widespread informational deficits among farmers persist. Even when

journalists provide detailed explanations of agricultural support programs—for example, describing government subsidies covering 50 percent of certain production costs or loan interest reductions—many farmers remain unaware of these opportunities or believe that such programs are inaccessible to them.

Findings from the farmer survey conducted for this study further illustrate this informational gap. Survey respondents reported varying levels of awareness regarding available agricultural programs and technical guidance. Many farmers indicated that while they occasionally encounter agricultural information through media sources, they often depend on informal networks to obtain practical knowledge relevant to their farming activities. Neighboring farmers, personal contacts, and local agricultural practitioners were frequently cited as important sources of information.

This pattern suggests that the agricultural information ecosystem in Armenia relies heavily on informal knowledge exchange within rural communities. While such networks can be effective in transmitting practical experience, they may also lead to uneven dissemination of information, particularly when farmers rely on second-hand interpretations of policies or technologies rather than direct access to reliable sources.

The absence of functioning agricultural extension services further amplifies these challenges. Historically, extension systems provided a structured mechanism for delivering scientific knowledge and technical advice to farmers. Regional Agricultural Support Centers previously played an important role in connecting farmers with agricultural expertise and translating research findings into practical recommendations. With the decline of these institutions, the responsibility for communicating agricultural knowledge has shifted partially toward media outlets, although journalism alone cannot fully substitute for extension services.

The limitations of journalism as a substitute for agricultural advisory systems are evident in the nature of media production itself. Journalists operate according to editorial cycles and news values, producing periodic reports focused on developments that are

considered newsworthy. Farmers, in contrast, require continuous access to information aligned with seasonal agricultural cycles, including planting periods, pest control interventions, irrigation management, and harvest planning.

Consequently, the informational needs of farmers extend beyond the scope of conventional news coverage. Addressing these needs would require a more integrated agricultural information system combining journalism, extension services, research institutions, and government communication mechanisms. Without such coordination, media coverage can contribute to awareness but cannot fully replace institutional systems designed to provide ongoing technical guidance.

Khachatryan's work with approximately 250 farming families provides an example of how targeted information exchange can produce tangible results. Through direct engagement, training activities, and market linkages, his initiative demonstrates the potential benefits of structured knowledge-sharing systems. However, such initiatives remain localized and dependent on individual leadership rather than representing a nationwide system of agricultural information dissemination.

Taken together, these findings indicate that the gap between farmers' information needs and the content typically provided through media coverage remains significant. While agricultural journalism can play an important role in raising awareness and highlighting sectoral challenges, addressing farmers' practical informational needs requires broader institutional mechanisms capable of delivering continuous, context-specific agricultural knowledge.

Finding 7: The Audience Engagement Paradox

One of the most intriguing findings emerging from the interviews concerns the relationship between audience engagement and media investment in agricultural journalism. While agricultural reporting is often perceived within media organizations as a topic with limited audience appeal, several interview participants described examples suggesting that audience interest in agricultural content may be significantly higher than editorial assumptions indicate.

Mirzoyan’s reporting experience provides a particularly illustrative example. One of her agricultural stories attracted approximately half a million views within a single day—an unusually high level of engagement for agricultural media content in Armenia. This example demonstrates that when agricultural issues are presented through compelling narratives or practical insights, they can generate substantial public attention. Such cases challenge the widespread perception among media editors that agricultural topics inherently attract limited audiences.

Interview participants suggested that the success of such stories is often linked to several factors, including the presence of a clear narrative structure, the practical relevance of the information presented, and effective digital distribution strategies. Agricultural stories that highlight individual innovation, new production methods, or successful local initiatives may resonate strongly with audiences, particularly when they provide concrete examples of problem-solving within rural communities.

However, respondents also noted that such high engagement levels are not consistently replicated across all forms of agricultural reporting. Many agricultural topics involve technical discussions related to policy frameworks, production systems, or regulatory changes that may be less immediately engaging for general audiences. As a result, media organizations often view agricultural journalism as a risky investment in terms of audience metrics.

The farmer survey conducted for this study provides additional context for interpreting this dynamic. Survey results indicate that farmers actively seek agricultural information and frequently share knowledge within their communities. This suggests that a core audience for agricultural information already exists, particularly within rural regions. However, the content needs of this audience—such as practical guidance, technical explanations, and sector-specific analysis—may differ from the types of narratives typically prioritized in mainstream news production.

Several interview participants emphasized that editorial decisions are frequently shaped by short-term engagement metrics rather than by

long-term audience development strategies. Digital media environments encourage content that generates immediate reactions through social media interactions, comments, and shares. Agricultural stories that require deeper contextual explanation may struggle to compete within such attention-driven news ecosystems.

Grigoryan noted that when agricultural reporting is produced in a detailed and community-oriented manner, it can generate significant local engagement. According to his experience with Tavush Media, audiences in rural regions respond strongly to coverage that reflects their everyday experiences and addresses practical challenges faced by farmers. Nevertheless, financially constrained media outlets often hesitate to invest in developing such specialized content because of uncertainty regarding its broader audience reach.

This dynamic creates a paradox within agricultural journalism. Media organizations often assume that agricultural topics attract limited audiences and therefore allocate minimal resources to agricultural coverage. At the same time, audiences may have limited exposure to agricultural journalism precisely because such coverage remains scarce. In other words, limited investment in agricultural reporting may contribute to the perception of limited audience interest.

Overcoming this paradox may require strategic experimentation with agricultural storytelling formats, including explanatory journalism, multimedia narratives, and community-focused reporting. Demonstration projects that successfully combine engaging storytelling with practical agricultural information could help media organizations better understand the potential audience demand for agricultural content.

Conclusions and Recommendations

Conclusions

The findings of this study suggest that agricultural journalism in Armenia operates within a complex set of institutional, structural, and resource-related constraints that collectively limit the visibility and effectiveness of agricultural information within the public sphere. Rather than reflecting individual shortcomings of journalists, these

limitations appear to be rooted in broader systemic dynamics that shape how agricultural issues are communicated and understood.

One of the most significant developments affecting the agricultural information ecosystem has been the institutional restructuring of the sector's governance framework. The dissolution of the Ministry of Agriculture and the closure of regional agricultural support structures weakened institutional mechanisms that previously facilitated communication between policymakers, journalists, and farmers. As a result, agricultural information flows have become more fragmented and less coordinated.

The research also highlights the influence of political agenda-setting within the Armenian media environment. Daily news production is strongly shaped by political events and statements by political actors, which tend to dominate media attention and reduce the visibility of sectoral issues such as agriculture. In this context, agricultural reporting often becomes episodic and reactive rather than systematic and investigative.

Economic pressures within the media sector further reinforce these dynamics. Limited financial resources and increasing competition for digital audience engagement encourage media outlets to prioritize topics that generate higher levels of audience interaction and advertising revenue. As agricultural reporting is frequently perceived as attracting lower engagement, it often receives fewer editorial resources despite its social and economic importance.

Another significant barrier concerns access to reliable agricultural data. Journalists interviewed for this study described persistent difficulties in obtaining official information related to agricultural policies, market conditions, and government programs. Limited transparency and fragmented data systems reduce the capacity of journalists to conduct evidence-based reporting and limit farmers' ability to access reliable information necessary for agricultural decision-making.

The study also identifies a significant gap in professional development opportunities for agricultural journalism. Effective reporting on

agricultural issues requires familiarity with technical subjects such as agronomy, agricultural economics, environmental management, and food systems. However, structured training programs that would enable journalists to acquire such expertise remain limited.

Survey data collected from farmers reinforce several of these findings. Farmers report significant demand for practical agricultural information, including technical guidance, weather information, pest management strategies, and details about agricultural support programs. However, many respondents rely primarily on informal networks—such as neighboring farmers or local practitioners—to obtain such information, suggesting that existing media and institutional communication channels do not fully meet farmers' informational needs.

Taken together, these findings suggest that the challenges facing agricultural journalism in Armenia extend beyond newsroom-level decisions and reflect broader systemic conditions within the agricultural information ecosystem. Improving the circulation of agricultural knowledge therefore requires coordinated efforts that involve media institutions, government agencies, agricultural research organizations, and rural communities.

Recommendations

Addressing the barriers identified in this research requires a comprehensive approach aimed at strengthening the agricultural information ecosystem. Several policy and institutional measures could contribute to improving both agricultural journalism and farmers' access to reliable information.

1. Strengthening Institutional Coordination

One important step involves strengthening institutional mechanisms responsible for coordinating agricultural policy communication and information dissemination. This may include establishing a dedicated institutional structure responsible for agricultural policy coordination, statistical reporting, and communication with both media and farming communities.

At the regional level, mechanisms that support agricultural extension services and facilitate collaboration between farmers, experts, and journalists could significantly improve the circulation of practical agricultural knowledge. Such structures could serve as platforms for information exchange, policy dialogue, and the dissemination of technical expertise relevant to rural communities.

2. Developing Agricultural Data Infrastructure

Improving access to agricultural data is essential for supporting both evidence-based journalism and informed agricultural decision-making. Government institutions could strengthen agricultural data infrastructure by developing systematic mechanisms for collecting and publishing agricultural statistics, including data on crop yields, production inputs, market prices, and land use patterns.

Public information systems should also ensure transparent reporting on agricultural programs, subsidy allocation, procurement contracts, and program outcomes. Making such data publicly accessible would enable journalists to conduct more rigorous investigations and allow farmers to better understand market conditions and policy developments affecting their livelihoods.

3. Supporting Capacity Building in Agricultural Journalism

Strengthening professional capacity in agricultural journalism represents another important priority. Because agricultural reporting requires specialized knowledge, targeted training programs could help journalists develop expertise in areas such as agricultural science, environmental sustainability, rural development, and agricultural economics.

Potential initiatives could include fellowships connecting journalists with agricultural researchers, training workshops focused on agricultural policy and science communication, and collaborative projects between media organizations and agricultural research institutions. Such programs could help journalists produce more analytical and informative coverage of agricultural issues.

4. Supporting Sustainable Agricultural Media Coverage

Given the social importance of agricultural information for rural development and food security, targeted support mechanisms may also be necessary to sustain agricultural reporting. Grants or specialized funding programs could support investigative reporting on agricultural issues, regional journalism initiatives, and multimedia projects focused on rural communities.

Such initiatives could help media organizations experiment with new formats of agricultural storytelling and expand coverage of topics that may not generate immediate commercial returns but remain important for public knowledge and policy debate.

Figures

Figure 1

Institutional transformation of the agricultural information system in Armenia

This figure illustrates the institutional transformation of Armenia's agricultural information system following the restructuring of agricultural governance. Prior to the dissolution of the Ministry of Agriculture, information flows were coordinated through a centralized structure linking the ministry, regional agricultural support centers, media organizations, and farming communities. These institutions facilitated communication between policymakers, journalists, agricultural experts, and farmers.

Following institutional restructuring, agricultural governance responsibilities became distributed across multiple government agencies without a single coordinating institution. As a result, communication channels between journalists, agricultural experts, and farmers became more fragmented. The figure illustrates the transition from a coordinated institutional communication system toward a more decentralized and fragmented information environment.

Figure 2

Demographic profile of surveyed farmers

This figure presents the demographic characteristics of the farmers participating in the survey (N = 52). The sample includes 29 male respondents (55.8%) and 23 female respondents (44.2%), indicating a relatively balanced gender distribution among participants.

The age structure of respondents shows that the largest group of farmers falls within the **40–49 age category (30.8%)**, followed by farmers aged **50–59 (25.0%)** and those **under 30 years old (17.3%)**. Smaller proportions of respondents were aged **30–39 (13.5%)** and **60 years or older (11.5%)**.

Survey participants represented multiple agricultural regions of Armenia. The largest groups of respondents came from **Armavir and Vayots Dzor (each 17.3%)**, followed by **Syunik, Ararat, Tavush, and Gegharkunik (each approximately 9–10%)**. Additional respondents represented Aragatsotn, Shirak, and Lori regions. This distribution indicates that the survey captured perspectives from farmers across diverse agricultural contexts.

Figure 3

Main sources of agricultural information used by farmers

This figure illustrates the primary sources from which surveyed farmers obtain agricultural information. Survey responses indicate that **digital platforms play a major role in agricultural information exchange**. The most frequently mentioned sources included **Facebook, YouTube, and TikTok**, each cited by 18 respondents.

In addition to digital media, **informal communication networks remain a critical information channel** within rural communities. Approximately 10 respondents reported receiving agricultural information through informal discussions with **family members, neighbors, and friends**.

Other sources mentioned by respondents include **online information platforms, training activities, veterinary consultations, and printed materials such as books**. These results indicate that farmers rely on a combination of digital media, interpersonal networks, and professional advisory channels to obtain agricultural knowledge.

Figure 4

Farmers' evaluation of the usefulness of agricultural information

This figure presents farmers' assessments of the usefulness of agricultural information using a five-point Likert scale, where **1 represents "very useful" and 5 represents "not useful at all."**

Survey results indicate generally positive evaluations of agricultural information. A total of **15 respondents (28.8%) rated the information as very useful**, while **9 respondents (17.3%) rated it as useful**. An additional **13 respondents (25.0%) evaluated the usefulness as moderate**.

However, a notable portion of respondents expressed more critical assessments: **12 respondents (23.1%) rated the information as less useful**, and **3 respondents (5.8%) considered it not useful at all**. These results suggest that although agricultural information is available, its practical relevance and accessibility may vary across farmers.

Figure 5

Farmers' priority information needs

This figure summarizes the types of agricultural information that farmers reported receiving and seeking during the previous twelve months. The survey responses indicate that farmers most frequently seek information related to **agricultural production practices, crop management, market conditions, and available training opportunities**.

In addition, respondents indicated interest in information related to **agricultural subsidies, pest management strategies, weather conditions, and innovative farming techniques**. The distribution of

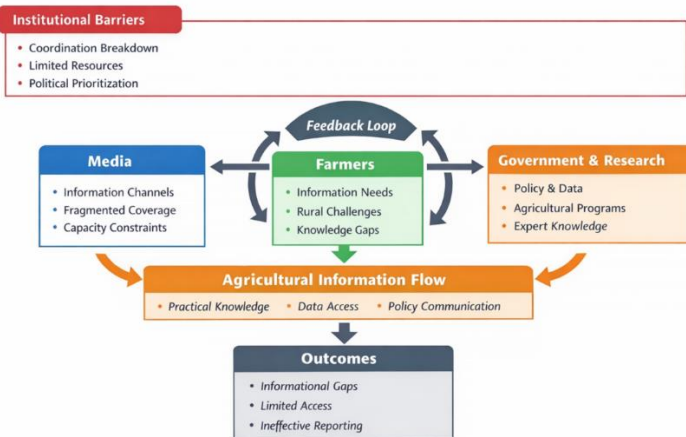
responses suggests that farmers prioritize **practical and operational knowledge** that can directly influence production decisions and improve agricultural outcomes.

These findings highlight the importance of accessible and practical agricultural communication systems capable of translating technical and policy information into usable knowledge for rural communities.

Figure 6. Integrated Model of the Agricultural Information Ecosystem

The figure illustrates the interaction between institutional structures, media organizations, and farmers within the agricultural information ecosystem in Armenia. Institutional barriers, media capacity limitations, and fragmented data systems influence the circulation of agricultural information and contribute to informational gaps affecting rural communities.

Figure 6: Integrated Model of the Agricultural Information Ecosystem



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Representation of Agrotopics in the Public Broadcaster's First Channel Social Advertisements: A Narrative and Functional Analysis

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Abstract

Social advertising is recognized as an effective instrument for shaping public consciousness and influencing behavioral patterns, with each initiative aiming to contribute to the improvement of the social environment.

The present study analyzes the representation of agrarian themes in the social advertisements broadcast by the First Channel of the Georgian Public Broadcaster. It identifies the relevance of this communicative format not only in terms of its functional and substantive dimensions but also with respect to its audiovisual forms and means of expression.

The research was conducted through narrative analysis and coding methods, which enabled a detailed examination of plotlines, symbolic elements, and value-based messages embedded in the advertisements. The theoretical foundation draws on agenda-setting and framing theories, as well as cultivation theory and the theory of the public sphere. These approaches allow for the examination of social advertising within a discursive framework.

According to the findings, the First Channel's social advertisements present agrarian themes as ideas associated with national identity, tradition, and prospects for development.

Although agrarian-themed social advertisements produced by the First Channel appear with relatively low frequency, they nonetheless encompass not only informational and reminder functions but also educational and cognitive ones, thereby generating valuable content for interested audiences.

Keywords: *Social Advertising; Agricultural Sector; Society; First Channel of Georgia.*

Introduction

In the modern world, media serves not only as a means of disseminating information but also as a powerful instrument for shaping value orientations and transforming behavioral norms. Social advertising, as a specific genre of media content, occupies a special place in this process. Its purpose extends beyond commercial interests and is directed toward enhancing public welfare. The effectiveness of such video spots is determined by multiple factors - social advertising integrates emotional, cognitive, and motivational components, facilitating the modification of viewers' consciousness and encouraging proactive behavior.

The topic gains particular relevance in the Georgian context, as the agrarian sector represents not only an economic foundation but also remains an integral component of national identity, cultural heritage, and traditional values.

The social advertisements aired by the First Channel of the Georgian Public Broadcaster aim to popularize agrarian activities and raise public awareness on agricultural development issues. At the same time, they fulfill a preventive and warning function, serving as a means of avoiding ecological disasters.

Methodology and Methods

The present research was carried out using narrative analysis and coding methods, which led to relevant findings.

The goal of the narrative analysis method is to examine how the story is structured, what audiovisual constructions are used, and what value-based messages it conveys (Riessman, 2008). Essential components of this instrument include identifying the plot architecture, pinpointing thematic-content units, unveiling symbolic and metaphorical layers, and interpreting authorial assessments.

Applying the narrative analysis method in this study enabled an in-depth exploration of agrarian-themed social advertisements aired on Georgia's First Channel. Each advertisement is analyzed in thematic-content, audiovisual, and functional dimensions, offering a comprehensive picture. With its help, we addressed the following qualitative questions: how messages of public importance regarding agrarian policy, agricultural development, or environmental issues are constructed; to what extent the social advertising format ensures adequate representation of the field; and what the content-technical characteristics of relevant materials are.

The coding guide is based on the systematic analysis of thematic, content-based, aesthetic-technical, and evaluative codes, aiming at a multidimensional interpretation of environmental, social, and informational materials (Saldana, 2009).

Thematic codes include broad areas such as environmental protection, agriculture, natural resource restoration, biodiversity conservation, climate and energy efficiency, urban planning, tourism, and eco-popularization.

Content-based codes differentiate forms of problem representation, suggestions for preventive actions, and the stimulation of prosocial behavior. Aesthetic-technical codes cover formats and genres, whether artistic, documentary, or graphic-animated. Verbal elements include narrative sequences, slogans, and textual messages.

Evaluative codes consider the social effectiveness of the material, the potential for raising awareness, and the likelihood of behavioral change. Innovative codes reflect contemporary approaches in the production of social advertising.

The methodology is based on qualitative content analysis, where the coding process begins with repeated observation of the material and detailed study of texts, visual elements, and audio features. Open coding first identified the main themes and content units. Axial coding then linked thematic, content-based, aesthetic-technical, and evaluative codes, forming structured categories. Selective coding, the final stage, ensured the articulation of the overarching narrative and the creation of a cohesive interpretative framework.

Literature Review

References to the significance of advertising and its role in society are found in the works of numerous prominent philosophers and scholars. Whether an advertisement is aimed at promoting social welfare or driven by mercantile objectives, its primary mission is to capture the attention of society.

Marshall McLuhan, a prominent Canadian philosopher and media critic of the last century, assigns this kind of significance to advertising in his book *Understanding Media*. Moreover, he described advertising as the greatest art form of the twentieth century.

"One day historians and archaeologists will discover that the advertising messages of our time are the richest and most reliable daily reflection among all the forms ever created by humankind throughout its entire life cycle" (McLuhan, 1964).

Public service advertising, as an instrument of prosocial activism in the media, is addressed, directly or indirectly, in the publications of the following authors: Nargiza Karkashadze, Vazha Zubashvili, Ekaterine Chalaghanidze, Nargiza Kankia, Suprun V. M. and Suprun L. V., Tobias Greitemeyer, Beatriz Casais, João F. Proença, Douglas A. Gentile, Ruben Enikolopov, Maria Petrova, James O. Prochaska and others.

One of the most recent works on social advertising belongs to Ekaterine Chalaghanidze, Professor at Caucasus International University, entitled *Social Advertising during the COVID Pandemic through the Example of Contemporary Georgian Media (2020-2022)*.

In Chalaghanidze's research, attention is focused on the importance of social advertising during the pandemic period, as well as on the channels and means through which this type of content is disseminated by the media.

The author notes that social advertising plays an important role in the process of raising public awareness, especially in crisis conditions.

"Social advertising firmly occupies its place in the system and process of public relations. During the COVID pandemic, through the media it influenced public awareness and levels of understanding, which was to some extent reflected in the decisions and choices of individuals and social groups," the author states, thereby confirming her hypothesis in the study (Chalaghanidze, 2024).

A useful and interesting academic article on the importance of social advertising is offered by Nargiza Karkashadze, Associate Professor at Akaki Tsereteli State University, entitled *The Importance and Effectiveness of Social Advertising in Contemporary Georgia (Karkashadze, 2017)*. The article discusses the essence of social advertising effectiveness and the relevant approaches.

To examine the purpose of social advertising, Karkashadze conducted an expert survey and presented a quantitative analysis. In response to the question of what determines the demand for social advertising, the majority of respondents, 43.8 percent, named "to attract public attention". According to 27.1 percent, social advertising contributes to "the formation of social opinion". A further 16.7 percent believe that its purpose is "to help society solve social problems" (Karkashadze, 2017, p. 4).

In the work of Professor Vazha Zubashvili, *The Formation of Television Advertising in Georgia*, one subsection is devoted to an issue relevant to this study, namely social advertising (Zubashvili, 2017).

"Social advertising is information that reflects the interests of society and is constructed and formulated in such a way as to exert targeted influence on mass, corporate or individual consciousness in order to elicit a predetermined reaction within the target audience," the author notes (Zubashvili, The Formation of Television Advertising in Georgia, 2017, pp. 164-165).

A noteworthy study on the tone of social advertising is presented by researchers Beatriz Casais and Aline da Costa Pereira. Their publication, entitled *The Prevalence of Emotional and Rational Tone in Social Advertising Appeals* (Casais and da Costa Pereira, 2021), aims to analyze emotional and rational appeals used in social advertising campaigns.

Based on the results of the study, the authors concluded that social marketers tend to prefer the use of rational tone in social advertising campaigns. The research revealed a certain gap between theory and practice, which speaks to the originality and value of the work.

"Social marketers must consistently evaluate the effectiveness of campaigns in order to determine how effective informational and rational appeals are in contributing to changes in people's attitudes and behavior," the authors note in the conclusion of the article, in the form of a recommendation (Pereira and Casais, 2021, pp. 292-293).

The academic article *Effective Spokespersons in a Public Service Announcement: National Celebrities, Local Celebrities and Victims* by Mark Toncar, Jane S. Reid and Cynthia E. Anderson highlights other important circumstances. Specifically, the researchers sought to determine the effectiveness of personalization in social advertising by using different types of spokespersons (Toncar, Reid and Anderson, 2007).

To conduct the experiment, the authors created a social advertisement that called for assistance for the victims of Hurricane Katrina. It was one advertisement, but presented with three different spokespersons: a national celebrity, a local celebrity and a real victim.

The results showed that the message was significantly more effective when the story was told directly by the victim. The local celebrity turned

out to be less convincing, and the national celebrity (Ashlee Simpson) was completely unconvincing.

The researchers also agree in the conclusion that the use of celebrities may yield successful results in commercial advertising but is less effective in social advertising. The work reveals original and innovative approaches. The sharing of experimentally confirmed findings creates an important theoretical foundation in this regard.

As for the textbooks that significantly enriched and strengthened our theoretical knowledge, the following can be singled out: Advertising (Katsitadze, 2006), Print Advertising (Uplisashvili and Kipshidze, 2009), Advertising and Promotion (Belch and Belch, 2013), Marketing Communications (Feradze, 2010) and others.

The literature review has shown that academic steps in the field of social advertising are being taken with a certain dynamic both at the local and international levels. However, in our view, this effort is still insufficient to activate broader discussion in this direction.

Theoretical Framework

The development of agriculture, environmental protection and ongoing processes in the agrarian sector are among the most important issues for contemporary society. Despite their objective significance, public attention to these areas largely depends on the communicative reality constructed by the media. It is in this context that four classical media theories come to the fore: agenda setting, framing, cultivation and the public sphere. Social advertising, as one of the essential components of prosocial media activism, functions as an important instrument for information exchange, encouragement and the revision of existing approaches, especially in the agrarian sphere.

Agenda setting theory implies the prioritization of news according to its perceived relevance. A media outlet defines its own agenda, which is a reflection of the particular features of its editorial policy. Information elevated to the status of a priority by the media persuades the public that this issue is indeed the most important one.

The themes of social advertising are often built around issues that have repeatedly appeared in the media spotlight. For example, if environmental topics occupy a leading place in the flow of information in news bulletins, this fact itself indicates the topicality of the problem.

When it is necessary to direct public attention from a general topic toward specific details, framing theory becomes the mechanism that governs this process. By using so called frames, it further "complicates" the situation for members of the public. If, according to agenda setting theory, their main concern was what to think about, the concept of framing creates a kind of framework for how to think.

Framing theory was first proposed by American sociologist Erving Goffman. In his work *Frame Analysis*, the author notes that there are two types of frames, natural and social. Natural frames identify events as physical phenomena, whereas social frames interpret them as socially conditioned. These frames exert considerable influence on the interpretation, processing and communication of data (Goffman, 1974).

Researchers Gamson and Modigliani argued that frames direct public attention toward one particular issue. They offer the audience the opportunity to focus on an important detail within a larger story. As Gamson and Modigliani write, a frame is a set of interpretations that assigns specific meaning to a given issue (Gamson and Modigliani, 1987).

The campaign based and multi channel nature of social advertising reflects cultivation theory. According to this concept, constant media messages over time create a long term perspective for the perception of reality. For example, if citizens regularly watch social videos in which farmers use modern technologies to produce environmentally clean products, a cultivated perception emerges that agriculture is a promising, safe and progressive sector. The same mechanism can be used to focus on negative realities. If the advertisements talk about problems such as depopulated villages, severe environmental conditions and so on, society develops the sense that there is a sort of collapse in this area and that timely intervention is needed (Gerbner and Gross, 2006).

This is also the result of cultivation. Social advertisements not only provide information but also shape concrete social representations.

The public sphere theory presents agro themed social advertising in yet another dimension, as a mechanism or instrument for dialogue, debate and collective decision making. Social advertising is not merely a message. It is a kind of platform for public discussion. For example, if a campaign concerns the return of young people to the regions, it may become the basis for public meetings, online debates and discussions of strategic policy. Accordingly, agro themed social campaigns contribute to the process of generating a common civic position (Habermas, 1989).

The theoretical concepts presented above are closely interconnected. Taken together, they highlight the importance of creating and implementing agro themed social advertisements and campaigns. First, the issue enters the media agenda, after which it may become the basis for the creation of social advertising. The latter sets specific frames for it, shapes a constant perception through cultivation and, finally, promotes the transformation of the raised topic into a subject of public discussion. This chain of processes establishes the following logic: socially significant problems, challenges and opportunities must ultimately be addressed by society itself.

Discussion and Results

A certain group of social advertisements broadcast at various times on the First Channel of the Public Broadcaster are united around themes that are relevant to the agrarian sector. At the same time, they address ecological problems and environmental issues.

It is noteworthy that the ecological situation in Georgia is full of serious challenges. Among them, particular attention should be paid to air and water pollution, solid waste management, the reduction of biodiversity and so on. Raising public awareness in this area is an important precondition for the effective management of environmental problems. Social advertising has assumed precisely this function.

During the research period, the social advertisements broadcast on the First Channel in this area covered the following thematic

directions: environmental protection, forest restoration, trout farming, energy efficiency, climate and urban planning.

Among these, the following social advertisements stand out for their focus on the idea of freeing the environment from harmful pollutants:

1. "You dropped it" (2012)
2. "Do not leave waste, take care of the environment, let us clean Georgia" (2014)
3. "Do not throw it away, recycle it" (2024)

The first and second of these advertisements are satirical in nature and in fact "mock" those who pollute the environment. In the first social advertisement, which uses a fictional and artistic style of shooting, we see the attitude of young people, including children, toward the issue. "You dropped it" is how a little girl addresses a middle aged man who throws litter on the ground.

As for the second satirical video, its main idea is that the waste we throw away ultimately harms us ourselves. The video consists of fictional scenes and serves to visualize the message directly. It is noteworthy that this type of social advertising creates a kind of moral "terror" for the viewer. At the same time, it develops creative vision and illustrates both the severity of the problem and the need to resolve it.

One social advertisement in the ecological category tells the story of a special Wasteless recycling bin, which helps prevent waste from ending up in the environment. The visual sequence provides viewers with a step by step guide for action.

It is significant that this device is placed within private spaces. Nevertheless, the advertisement is completely free of commercial subtexts, and the focus is placed solely on the importance of the equipment. While the previous two videos served to represent the problem, this advertisement offers an effective way to solve it.

In ecological social advertisements, in addition to environmental pollution, attention is drawn to the following issues:

1. "Green Holidays" (2014)
2. "Become a Friend of the Forest" (2023)

3. "Trout Restoration Project" (2024)
4. "Urban Planning" (2024)

The first and second social videos from this list have two main objectives. On the one hand, to promote the development of domestic tourism, and on the other hand, to encourage citizens to protect the environment. The goal of the volunteer campaign is to create ecological well being.

In the social advertisement created about forest restoration, a specially written musical composition is used, which, importantly, easily captures the viewer's attention. The lyrics are rhythmic and easy to remember.

As for the social advertisement whose aim is to inform society about the trout restoration project, it leaves the impression that it is a kind of public relations campaign for a particular state agency, in this case the Ministry of Environmental Protection and Agriculture. Although the project itself clearly has a prosocial purpose, it is debatable to what extent such advertisements should be broadcast under the status of social videos.

The social advertisement prepared on the topic of urban planning is similar to the previous video in terms of authorship and production. Nevertheless, instead of acting as a public relations campaign for the Ministry of Economy and Sustainable Development, it shifts the focus to the importance of the issue itself. The main message of this video is expressed in one of the phrases of the verbal sequence: "Today's urbanism is tomorrow's geography". The advertisement emphasizes the necessity of preserving ancient cultural and historical buildings and of pursuing a policy of greening the environment. It is arguable that the advertisement lacks a slogan and any narrative sequence in the form of captions.

Social advertisements devoted to energy efficiency, climate and the importance of taking care of an automatic meteorological station are presented with the following slogans:

1. "Take a step toward energy efficiency" (2014)
2. "Restore the balance" (2013)

3. "Let us take care of the station" (2022)

The first video presents the possible consequences of climate change. To make them more visible, it uses relevant drawings. It is noted that "developing countries are vulnerable to climate change and natural disasters". In addition to the risks, the advertisement also provides information on preventive measures. It is noteworthy that the audio track, namely the musical composition used in the clip, appears to violate copyright, which reveals a somewhat unserious attitude toward the issue.

"Energy efficiency is a reasonable choice", we are assured in the second social advertisement. It shows how replacing various electronic devices with alternative solutions can increase the efficiency of energy use. It is significant that energy efficiency is important because it helps to achieve sustainable development goals. The visual component of this clip is also noteworthy. It is composed of rapidly changing shots and dynamic actions.

The importance of taking care of the automatic meteorological station is discussed in the third social advertisement from this thematic sequence. Its goal is to prevent damage to the mechanism. In this part, it is noted that if the station is damaged as a result of human interference, it will become impossible to collect information and to avoid disasters.

The social advertisement is presented in the form of 2D animation using graphic techniques. The audio track consists of natural sounds. It is noteworthy that the content of the advertisement is also explained in sign language.

A kind of continuation of the ecological theme is found in social advertisements that are aimed at the development of domestic tourism and promote travel within the country:

1. "Travel in National Parks" (2012)
2. "Become a tourist in your own country and discover Georgia" (2014)
3. "Come Up to the Mountains" (2024)

These videos show various attractions of Georgia. The entire series of image based clips aims to increase the number of Georgian visitors in national parks and high mountain regions as well as in the lowlands. The visual sequence, composed of attractive shots, is very likely to arouse interest among viewers.

Issues related to agriculture appear in social advertisements in much smaller doses. The presented videos mostly have informational purposes:

1. Agricultural cards (2013)
2. "Let Us Take Care of Beekeeping Together" (2022)

The first social advertisement, which concerns the use of agricultural cards, was prepared by the Ministry of Agriculture and explains the positive aspects of their use. The second video, presented in a graphic and animated format, covers a specific branch of agriculture, namely beekeeping. Its goal is to present important recommendations that must be followed when treating bees. To visualize the lengthy narrative sequence, an effective tool is used, namely infographics.

For the sake of summarizing and offering more clarity, we present a table compiled using the method of coding the empirical field, where the social advertisements studied by us are divided into thematic, content based, aesthetic technical and evaluative categories, each accompanied by relevant codes and descriptions.

Category	Code	Description
Thematic codes	Environmental protection and pollution	Problems of air and water pollution; waste management; prevention of environmental contamination; recycling; raising public awareness
Thematic codes	Restoration of natural resources	Forest restoration; preservation of biodiversity; trout restoration

Thematic codes	Climate and energy efficiency issues	Climate change; energy efficiency; sustainable development; preservation of meteorological stations
Thematic codes	Urban environment and planning	Urban policy; preservation of cultural heritage; greening of cities
Thematic codes	Tourism and eco popularization	Promotion of domestic tourism; popularization of travel in national parks
Thematic codes	Agriculture and biodiversity	Use of agricultural cards; preservation of beekeeping
Content based codes	Presentation of the problem	Visualization of pollution; demonstration of negative consequences
Content based codes	Proposal of preventive action	Presentation of solutions; stimulation of environmentally responsible behavior
Content based codes	Irony and satire	Emotional engagement; ironic response to the problem
Content based codes	Modeling of positive behavior	Presentation of environmentally responsible behavior; emphasis on personal responsibility
Content based codes	Informational PR campaign	Presentation of activities of public institutions; positive popularization of administrative projects

Aesthetic technical codes	Form and genre	Fictional; documentary; graphic; animated
Aesthetic technical codes	Audio track and music	Original compositions; natural sounds; copyright observation or violation
Aesthetic technical codes	Verbal elements	Slogan; textual message; integration of sign language
Aesthetic technical codes	Emotional impact	Moral pressure; inspirational tone; call to action
Evaluative codes	Social effectiveness	Raising awareness; potential for behavior change
Evaluative codes	Social vs. commercial subtext	Absence of commercial goals; signs of state PR campaign
Evaluative codes	Innovativeness	Presentation of new technology or approach
Evaluative codes	Narrative structure	Consistency of content; direct or symbolic messaging

Conclusion

The narrative analysis of social advertisements has shown that agro themed videos constitute an important component of the media agenda. This approach reflects an attempt to raise public awareness of such challenges as environmental pollution, waste management, the reduction of natural resources and climate change.

The content of the social videos broadcast on the First Channel is diverse. Some of them aim to demonstrate the problem, while others attempt to present possible solutions.

The audio visual forms and genres used in the advertisements, including fictional, documentary and graphic animated formats, serve to communicate the message effectively. Particular attention is paid to emotional impact, which should, as a rule, foster a sense of moral responsibility and motivation in the viewer.

It has been revealed that social advertisements are an important instrument for raising public awareness in the field of agriculture and related environmental issues. They perform not only an informational but also an educational and motivational function.

As for the coding scheme, it reflects the multilayered structure of the analysis of environmental social advertisements. This structure is based on four main categories, thematic, content based, aesthetic technical and evaluative. Each of these defines a specific aspect that influences the content, perception and effectiveness of the message.

The presented scheme forms a powerful analytical framework that makes it possible to evaluate environmental media content, in this case social advertising, from both a substantive and a social perspective.

Although agro themed social advertisements are broadcast on the Public Broadcaster with varying intensity, the existing efforts remain insufficient both for the development of this field and for overcoming ecological and environmental challenges. An important recommendation is to intensify activities in this direction, which should be expressed in more frequent broadcasting of prosocial videos on issues relevant to this sphere.

The research also established that the effectiveness of the message depends on the depth of elaboration of the topic, the accuracy with which audio visual forms are selected and the emotional impact that ultimately creates real opportunities for raising awareness and changing behavior.

In order to improve the quality of content, it is necessary for the media, in this case the First Channel of the Public Broadcaster, not only to provide free airtime but also to increase its interest and motivation in relation to the creation of social advertising.

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Environmental Impacts Of The Russia-Ukraine War In Ukraine: Data-driven Analytical Approaches In Journalism

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Abstract

This article examines the environmental impacts of the Russia–Ukraine war in Ukraine through data-driven approaches in journalism. It examines how ecological issues – particularly those related to water, soil, and air – have traditionally been addressed in Ukrainian environmental journalism and how these practices have evolved under wartime conditions. The study emphasizes the longstanding connection between ecological reporting and data journalism in Ukraine, highlighting the growing reliance on alternative data sources such as satellite imagery, remote sensing, and open-source intelligence. While Ukraine faces environmental challenges similar to those observed globally, the article argues that its primary causes and potential solutions are now directly linked to the war. The findings underline the critical role of data journalism in documenting environmental damage, supporting public awareness, and informing post-war recovery efforts.

Keywords: Environmental Journalism; Data Journalism; Ecology; Russia–Ukraine War; Ecological Impacts; Wartime Journalism; Media; Mass Communication.

Introduction

Ecology has traditionally been perceived as a field that appears relatively distant from everyday life. However, it is at the same time so deeply interwoven into daily practices that it influences and shapes even the smallest or most habitual human actions, such as the time of falling asleep depending on indoor temperature or the amount of water consumed at different times of day. Environmental journalism reflects

this dual position: on the one hand, media professionals address everyday ecological concerns, seeking to demonstrate how global environmental trends affect people's daily lives; on the other hand, they describe, analyze, and critically debate global environmental challenges and strategic responses to them.

Environmental journalism, at least in Ukraine, has also long been regarded as a field of relatively low prestige, especially when compared to the “serious” domains of political or economic reporting. This perception has been gradually changing. These shifts are more likely driven by growing environmental threats than by a deeper societal recognition of the importance of ecological issues. Educational exposure to environmental topics has also played a significant role in this transformation. Whereas a decade ago ecology was taught primarily to senior school students, today environmental knowledge is introduced much earlier in the educational system. At the basic level, the textbook “I Explore the World” familiarizes the youngest pupils with issues of environmental pollution, followed at later stages by courses such as “Ecology of the Native Land” and “Biology and Ecology”.

Environmental journalists not only seek to make the consequences of large-scale ecological problems tangible and accessible to individual audiences, but also increasingly operate at the intersection of environmental reporting and data journalism. This article adopts an analytical perspective to demonstrate that data constitute an integral and inseparable component of environmental journalism in Ukraine. Particular attention is paid to how this media synthesis – understood as the systematic integration of data collection, analysis, and visualization into environmental reporting – has been reshaped by the war. Since the onset of the full-scale invasion, the circulation, availability, and interpretation of environmental data within Ukraine's media landscape have fundamentally changed, thereby transforming both journalistic practices and how environmental issues are framed, explained, and debated in the public sphere.

The purpose of this article is to examine the environmental impacts of the Russia–Ukraine war in Ukraine through data-driven analytical approaches in journalism, with a particular focus on the integration of

environmental reporting and data journalism under wartime conditions. The study aims to demonstrate how data function as an essential component of ecological journalism in Ukraine and how this media synthesis has been transformed by the war.

To fulfill this aim, the article focuses on the following key **objectives**:

- to analyze the role of data as an integral component of environmental journalism in Ukraine and its development before the full-scale invasion;
- to examine how wartime conditions have transformed the circulation, accessibility, and use of environmental data in the Ukrainian media sphere;
- to identify water, soil, and air as key analytical domains for assessing war-related environmental damage;
- to assess how the war has reshaped journalistic practices and interpretative frameworks in data-driven environmental reporting.

Methodology

The study employs a combination of general scientific and specialized methods adapted to the analysis of environmental journalism and data-driven reporting under wartime conditions. Descriptive and analytical approaches were used to examine academic literature, journalistic materials, environmental reports, and media projects focused on ecological issues in Ukraine, with particular attention to data usage, visualization practices, and explanatory models in environmental reporting.

Comparative analysis was applied to contextualize Ukrainian environmental journalism within broader international practices, allowing for the identification of both shared global ecological challenges—particularly related to water, soil, and air—and context-specific transformations caused by the Russia–Ukraine war. This approach enabled the assessment of how similar environmental problems acquire distinct causes, narratives, and data practices in conditions of armed conflict.

Systems and structural-functional methods were used to analyze the interaction between environmental data production, journalistic

practices, and public communication, highlighting how data journalism functions as an integral component of environmental reporting in Ukraine. Particular emphasis was placed on changes in data circulation, accessibility, and interpretation resulting from wartime constraints, including disrupted monitoring systems and reliance on alternative data sources.

An important empirical and methodological dimension of the study is the author's participation as a project manager, educator, and researcher in the international Erasmus+ KA2 project "New Media for Green Citizenship: Empowering Youth as Active Reporters for Sustainable Citizenship through New Media Skills Development" (2021-1-DE04-KA220-YOU-000028739). Within this project, the development of the Green Reporters youth handbook, work with young participants from different countries, and the creation of digital platforms and publications provided qualitative insights into environmental storytelling, local ecological problem framing, and cross-cultural perspectives on environmental communication. These materials and experiences informed the analytical framework of the article and contributed to a multidimensional understanding of environmental journalism practices.

Generalization and synthesis were used to formulate conclusions regarding the role of data-driven environmental journalism in documenting war-related ecological impacts and shaping public discourse in Ukraine.

Research Findings

Environmental journalism, like any other media practice, follows (or tries to follow) a workflow that guides the production of meaningful and socially relevant stories. Based on practical work with students within an international environmental media project, this article relies on an expanded model of the journalistic process that includes the following interconnected stages: issue selection, research, story planning, data collection, editing, and dissemination (Arndt Selders, Yuriy Zaliznyak, and others, p.57) [1].

The process begins with identifying an environmental problem, clearly defining its scope and relevance within a specific local, national, or

global context. At this stage, journalists are expected to explain why the issue matters, whom it affects, and how it relates to broader environmental, social, or political processes. This initial framing is crucial for transforming abstract ecological challenges into comprehensible and relatable narratives.

The research phase involves collecting background information, reviewing scientific and policy sources, and mapping available datasets. In environmental journalism, this stage is closely linked to data journalism, as ecological issues often require quantitative evidence, long-term monitoring data, or comparative indicators. This is followed by story planning, during which journalists define the narrative structure, select appropriate formats (text, data visualization, multimedia), and determine the role of data in supporting the story's arguments.

Data collection constitutes a core stage of environmental reporting and may include official statistics, environmental monitoring data, satellite imagery, open-source intelligence, expert interviews, and community-generated data. The editing stage focuses not only on accuracy and clarity but also on ethical considerations, contextualization of data, and avoidance of alarmism or oversimplification.

Finally, promotion and dissemination are treated as integral parts of the journalistic process. Environmental stories are expected to reach and engage audiences across multiple platforms, fostering public discussion and awareness.

Importantly, environmental journalism often carries an implicit expectation of impact. A “green” reporter may anticipate that a story will provoke concrete consequences – encouraging public debate, influencing decision-making, or inspiring audiences to take action toward addressing the identified problem. In this sense, environmental journalism operates not only as a descriptive practice but also as a form of civic engagement aimed at supporting environmental responsibility and sustainable change (Arndt Selders, Yuriy Zaliznyak, and others, p.57) [1].

For making our green stories more engaging, we can use the so-called "Periodic Table of Storytelling," which contains a lot of possible elements that make up a story (Harris, J.) [2].

Data and Ecology

Data have always played a central role in environmental journalism, as ecological issues are inherently linked to measurement, monitoring, and long-term observation. Environmental reporting routinely relies on open environmental datasets, including data on air quality, water quality, greenhouse gas emissions, land use, and biodiversity indicators. Such datasets, often published by governmental agencies or international organizations, provide empirical foundations for identifying environmental risks, tracking changes over time, and comparing regional or national trends.

Environmental journalists frequently engage in collaboration with scientists, environmental experts, and data analysts to correctly interpret complex monitoring data, scientific reports, and geographic information system (GIS) maps. This interdisciplinary cooperation helps translate technical environmental data into accessible narratives while preserving scientific accuracy and contextual depth.

Data-driven approaches are particularly important in investigative environmental journalism, where journalists use quantitative evidence to uncover industrial pollution, illegal logging, river contamination, soil degradation, or violations of environmental regulations. By cross-referencing datasets, satellite imagery, and field observations, journalists can establish causal links between human activity and environmental harm.

The findings of such investigations are increasingly communicated through interactive maps, infographics, dashboards, and other visual formats based on open government data and independent monitoring sources. These tools not only enhance audience comprehension but also promote transparency and accountability by allowing users to explore environmental data independently. In this way, data function not merely as supporting evidence but as a core narrative and analytical element of contemporary environmental journalism.

We have some good examples of collaboration of data and ecology in media. For example, Ukrainian data journalism [Texty.org.ua](https://texty.org.ua), which, even before the full-scale invasion, systematically applied data-driven methods to environmental investigations. One illustrative example is the project on illegal amber mining, which combined satellite imagery, spatial analysis, and open data to document large-scale environmental destruction and its economic and social consequences [3]. Another significant pre-war investigation focused on deforestation, where journalists used geospatial data, official statistics, and visual mapping to reveal patterns of illegal logging and long-term ecosystem degradation [4]. Similar data-based practices were applied in media coverage of air pollution in Kyiv, where journalists combined state environmental monitoring data with satellite data from the ESA Sentinel program to identify and visualize chronic pollution hotspots (Vorontsova, O.) [5]. In parallel, specialized civic platforms such as Ecoaction (Екодія) developed comprehensive data-driven projects, including “Industrial Ukraine: Impact of Pollution on Inhabitants and the Environment in Five Industrial Cities,” demonstrating that the integration of data and ecology extended beyond newsrooms to dedicated platforms focused on environmental analysis, public engagement, and advocacy [6].

These projects demonstrate how, before the war, Ukrainian environmental journalism already relied on data analysis and visualization to uncover structural ecological problems, establish causal relationships, and present complex environmental processes in an accessible and evidence-based manner.

Ecological journalists, like all media professionals, are required to adhere to core journalistic standards, including timeliness, impartiality, factual accuracy, responsibility, respect for private life, and the principle of “do no harm” while defending the public interest. In this context, the use of data is particularly valuable, especially with regard to source reliability and verification. Data-driven approaches enhance transparency, strengthen the evidentiary and argumentative basis of journalistic work, and enable the identification and explanation of cause-and-effect relationships underlying environmental problems. By grounding environmental reporting in verifiable data, journalists can

more effectively substantiate their claims, reduce the risk of speculation, and contribute to informed public debate.

These pre-war examples form an important baseline for understanding how data-driven environmental journalism functioned under relatively stable conditions, against which the profound transformations of data practices, sources, and narratives caused by the war can now be more clearly traced.

Elements of an engaging story and standards for the Ukrainian environmental journalism have not changed, but context has

Ecology and Ukrainian data journalism: wartime

War changes many things, including the process of data circulation in the media. At the initial stage of the war, data processing practices underwent significant changes due to the closure of public registers and the introduction of multiple restrictions on access to information. However, data did not cease to exist; instead, new forms of data continued to accumulate under wartime conditions. These processes were increasingly shaped by collaboration between the state, citizens, media organizations, and volunteer initiatives. Journalists began to rely more extensively on open-source intelligence (OSINT) to document environmental damage and potential war crimes, while digital tools such as chatbots enabled the systematic collection of data directly from citizens. As a result, wartime data ecosystems in Ukraine have become hybrid in nature, combining official, civic, media, and volunteer-generated data.

If we talk specifically about ecology media, journalistic approaches have undergone a significant transformation under wartime conditions. There has been a marked shift toward the use of open-source intelligence (OSINT), satellite imagery, and remote sensing technologies as primary tools for documenting environmental damage. These methods enable journalists to record and analyze cases of environmental war crimes and ecocide, particularly in situations where on-the-ground access is limited or impossible. Data-driven techniques are increasingly applied to track oil spills, large-scale wildfires, damaged industrial facilities, and the destruction of ecosystems. Special attention is also given to monitoring the

consequences of military attacks on rivers, soil, forests, and protected natural areas. In this context, collaboration with international partners and investigative networks, including organizations such as UNESCO, GIJN, and OCCRP, has become essential for data verification, methodological support, and the global dissemination of findings.

For example Investigative projects by Radio Svoboda (Schemes) combine open-source intelligence (OSINT), satellite imagery, expert assessments, and official data to analyze how military actions have caused large-scale environmental harm, including contamination of land, destruction of ecosystems, and damage to industrial and energy infrastructure (Ovsyany, K.) [7].

At the same time, specialized environmental platforms such as *Ecoaction (Екодія)* have systematically documented how the Russian army has damaged Ukraine's environment, focusing on pollution, destruction of natural resources, and long-term ecological risks caused by shelling, fires, and occupation [8]. An important data-driven tool developed during the war is Ecoaction's interactive map of environmental damage, which visualizes verified cases of harm to ecosystems, water resources, soil, and protected areas, serving both journalistic and advocacy purposes [9].

These wartime projects demonstrate how environmental journalism has expanded beyond awareness-raising toward the systematic collection of evidence that may be used in legal, investigative, and international accountability processes. In this context, environmental damage is increasingly framed not only as a consequence of war but also as a potential form of ecocide. This framing is reflected in contemporary academic discussions that analyze large-scale environmental destruction during Russia's war against Ukraine through the lens of international environmental and humanitarian law (Zibtsev et al., 2022) [10].

Conclusions and Recommendations

The environmental challenges documented in Ukrainian journalism during the Russia–Ukraine war are structural rather than episodic and therefore require multidimensional analytical and journalistic responses. Environmental damage is not limited to isolated incidents

but affects interconnected ecological systems, demanding sustained data-driven monitoring, verification, and interpretation. No single journalistic or technological solution can adequately capture the scale and complexity of war-related environmental impacts; instead, a layered approach combining data journalism, investigative reporting, and international cooperation is required.

Environmental reporting in Ukraine consistently operates across three core ecological domains—air, water, and soil. Ukrainian journalists are not an exception in this respect; however, the causes of environmental degradation within these domains are directly shaped by warfare. Air pollution is intensified by missile strikes, drone attacks, fires caused by explosions, and the destruction of industrial infrastructure. Soil degradation is linked to shelling, chemical contamination, land mining, and salinization caused by military activity and debris, including remnants of ammunition and military equipment. Water-related problems range from catastrophic flooding and ecosystem collapse, as in the case of the Kakhovka Hydroelectric Power Plant, to acute water scarcity and infrastructure destruction, as observed in cities such as Mariupol.

Under these conditions, environmental journalism increasingly depends on OSINT, satellite imagery, remote sensing, and citizen-generated data. These tools allow journalists to document environmental harm even when access to affected areas is restricted. At the same time, collaboration with scientists, civil society actors, and international investigative networks remains essential for ensuring data accuracy, contextualization, and credibility.

From a normative perspective, environmental journalism in wartime must balance urgency with responsibility. Journalists should prioritize transparency of data sources, methodological clarity, and the clear explanation of cause-and-effect relationships. Data should not merely illustrate environmental damage but help audiences understand its origins, scale, and long-term consequences.

Finally, the findings of this study indicate that environmental journalism during war should not be reduced to descriptive reporting alone. Its broader role lies in sustaining public awareness, supporting

accountability for environmental war crimes, and contributing to post-war recovery and environmental restoration. The Ukrainian experience demonstrates that data-driven environmental journalism is not only a tool for documenting destruction but also a critical mechanism for preserving ecological knowledge and informing future reconstruction strategies.

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The Role of Agri-journalism in Media Contexts and Georgia's Sustainable Development

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Abstract

The study of the place and role of Agri-journalism in Georgian media is undoubtedly relevant today.

Against the backdrop of examples from *Radio Liberty*, "*knews.ge*", *Radio Hereti*, and the *Georgian Public Broadcaster*, this paper examines the role of media in the development process of Agri-journalism.

The examined examples have demonstrated that Agri-journalism in Georgia faces numerous challenges, particularly from the perspective of agrotourism. Meanwhile, tourism represents a significant source of income for the majority of countries, and Georgia is no exception.

The paper describes the barriers hindering the development of Agri-journalism in Georgia and the associated challenges.

It demonstrates that Agri-journalism is undoubtedly a significant instrument for gathering diverse opinions and visions on agricultural topics and subsequently informing society in this direction.

Keywords: *Mass Media; Agricultural; Journalist; Farmer; Sector; Tourism; Problems.*

Our **research area** is the study of the state of Agri-journalism in the contemporary Georgian media space and its analysis.

To ensure our research was thorough and compelling, we employed the **observational method**, which enabled us to make logical and objective assessments.

Our **objective** is to examine Agri-journalism as an emerging field and the role it plays and will play in the development process of agriculture.

We ultimately arrived at the **conclusion** that Agri-journalism still faces numerous problems in Georgia and requires even more serious study.

Mass media exerts significant influence on agricultural development processes. If we consider the fact that the continuous development of civilization necessarily requires, first and foremost, the preservation of agricultural sustainability, the role of mass media becomes apparent. The media determines the quality of communication, increases awareness in agriculture, promotes public engagement in processes, and shapes the public opinion.

This is why particular attention is being paid today to the development of Agri-journalism as a specialized field of media. It covers and analyzes agricultural processes, environmental sustainability issues, problems of in-depth understanding of socio-political contexts, and technical aspects of agriculture. It provides timely and accurate news about trends and challenges in agriculture.

For the state, agriculture is a priority direction; nevertheless, the sector's development does not occur rapidly and in accordance with the times. Moreover, local farmers often struggle to embrace new technologies. Additionally, there is a significant deficit of veterinarians and agronomists in rural areas.

The sector's development undoubtedly requires human and intellectual resources. Education and the introduction of new knowledge are paramount in agriculture; in this matter, media must play the most important role.

However, unfortunately, as Maia Kalabegashvili, editor of the newspaper "Spektri," notes in an interview with Radio Liberty, "journalists lack sufficient education; therefore, agricultural topics are not covered in depth" ⁽¹⁾.

Consequently, addressing the deficit of education among journalists is the primary problem. Therefore, it is essential that the issue be studied and analyzed from this perspective as well. Otherwise, the problem will not be resolved; *Radio Liberty* does not emphasize this process by accident; it pointedly notes - "One-third of Georgia's population lives in rural areas. For a large portion of these people, agriculture is the main source of income, yet processes occurring in the agricultural sector are inadequately covered in central media. This deficit is primarily filled by regional media, but the specific field of agriculture requires certain knowledge" (2).

Radio Liberty actively addresses agricultural topics; not a single significant issue concerning agriculture escapes its attention. In 2021, Radio Liberty covered the closure of one of Georgia's largest dairy product manufacturers, "Shiraki's" livestock farm. It was noted that "dairy farming is the most difficult sector in livestock breeding. This is precisely why state assistance in this area is substantial in Europe and America, including the provision of grants; for such farms, electricity and water are free. This is done so that the population and future generations have access to raw and healthy milk" (3).

Consequently, *Radio Liberty* essentially blames the Georgian government for not facilitating the development of livestock breeding in the country.

Radio Liberty has returned to agricultural topics on numerous occasions; it has noted how important its development is for the region and, accordingly, for the country. It has also noted more than once that regional media must play a decisive role in this process.

Of course, the role of Agri-journalism in regional media is paramount; this is confirmed by "Kakheti's Voice," which intensively addresses these problematic issues.

Maia Mamulashvili, founder of "Kakheti's Voice," notes - "Historically, Georgia is an agricultural country where traditional economies are deeply rooted, yet the dynamics of sectoral development are not very effective. We see that the main problem is farmers' lack of knowledge and information. Against this background, it is noteworthy that Agri-journalism is a completely new field in the country. This is the latest

media direction, which refers to journalists writing about agricultural issues. Despite the fact that hundreds of journalists work to cover issues in this field, both the journalists themselves and the media experience a great deficit of professional skills"⁽⁴⁾.

"Kakheti's Voice" is a leader in Georgian media in this regard; it does not leave any significant event in the direction of Agri-journalism unattended. It intensively discusses journalists' working meetings as well. It is noted that "when we journalists follow news, conveying information to people is easy. Great importance is attached to those media tours, which are a combination of theoretical and practical knowledge, and our level of awareness increases. We become acquainted with the situation existing in various corners of Georgia in the agricultural direction" ⁽⁵⁾.

"Kakheti's Voice" undoubtedly devotes an interesting blog to the 44th International Conference of Agri-journalists held in South Africa. It discusses the Agri-journalism guide and its importance - "At the Gori Farmers' Center of 'Kartli Agrosystems,' the 'Association of Regional Media of Georgia' presented the Agri-journalism guide to journalists and the wider public, which was prepared for members of regional media as a manual and aims to assist representatives of media working in or interested in the agricultural sphere" ⁽⁶⁾.

As time passes, it becomes increasingly clear that studying the development trends of the agri-journalism field with high professional standards is essential for journalists and media organizations operating in countries undergoing industrial development.

"Kakheti's Voice" is one of the distinguished media outlets in this regard in Georgia.

Here we must also note the role of Radio Hereti in the development process of Agri-journalism in Georgia; it belongs to that part of Georgian regional media that has separate programs in this direction; twice a week - on Monday and Wednesday, the radio broadcasts a program for persons interested in agriculture - "Agro News," led by journalist Giga Abuladze; the program reviews regional agricultural problems and ways to resolve them.

The *Georgian Public Broadcaster* is also actively involved in the process of agricultural issues. Support programs for agriculture are intensively covered in numerous news programs - particularly in mountainous regions, which is undoubtedly a step forward for the development and advancement of the sector.

The 2019 programmatic priorities of *the Georgian Public Broadcaster* state - "Channel I is interested in significant issues of agricultural development, a clear example of which is not only their coverage in news but also the program 'Ferma' (Farm), which tells viewers about successful Georgian farming and promotes the creation of production within Georgia's borders. The program provides practical advice to farmers and consumers, information on agrotechnological innovations, legislative changes, state programs, and European experience. 'Ferma' offered viewers a new section that encompasses rural development issues, materials about the activities of community leaders, facilitating the implementation of their initiatives and ideas"⁽⁷⁾.

However, on December 16, 2023, seven programs were closed on the Public Broadcaster, among which was "Ferma," which is, of course, a tremendous loss on the path of agri-journalism development.

Meanwhile, "Ferma" was a distinguished educational program on agricultural topics in the Georgian media market. It encompassed all branches of agriculture. It covered how farm management operated, what knowledge was necessary for managing and developing farms, introduced us to successful farmers, modern technologies and their application, studied the development of organic farms; it told us what path products traveled "from farm to table" and, in general, how modern Agri-Georgia was developing.

The closure of the program "Ferma," we believe, was a serious mistake and significantly set back the development of Agri-journalism in Georgia; all the more so because it is the direct function of the Public Broadcaster to actively engage in this direction as well.

The fact is that high engagement of journalists is important for the development of agriculture; therefore, the development of Agri-journalism must become a priority, since the country's future economic stability significantly depends on it.

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Standards for Covering Environmental Issues and Related Challenges in Regional Media

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Abstract

The state of covering environmental issues in Georgian media is unfavorable. The number of published topics in the ecological sphere is limited, and the content that does appear does not aim at a deep understanding of the issues. Media outlets typically confine themselves to providing short news updates, which hinders the search for solutions to the ongoing environmental crises.

The aim of the present paper is to examine the standards of environmental coverage and to analyze the work of regional media in the field of environmental reporting, as well as to identify the problems associated with it. Among the diverse media landscape in Georgia, online media outlets were selected as the objects of study, as they play a decisive role in raising public awareness and disseminating scientific knowledge in the digital era, particularly against the backdrop of environmental crises. The research examines four online media outlets operating in Western Georgia and analyses the share of environmental topics within their overall media output. Based on content analysis, the forms and structure of information delivery were identified. Relying on criteria recognized in the scientific field, the study highlights important results and their implications. Consequently, international practices and the perspectives of scholars specializing in environmental journalism are taken into account.

Drawing on the available scientific knowledge on environmental media coverage, the paper introduces several new insights intended to promote both deeper public awareness and the activation of preventive functions. The main finding is of a recommendatory nature: the current trend of environmental reporting requires revision, which

implies a shift in media emphasis from news-style coverage of the adverse impacts of climate change toward the production of analytical material.

Keywords: *Environmental Coverage; Media Standards; Environmental Issues; Ecological Awareness; Regional Online Media.*

Introduction

The digital era of the past three decades has generated excessive demand for natural resources and exacerbated environmental problems. Uncontrolled human interference in nature has led society to catastrophes such as climate change, earthquakes, floods, and other natural disasters. In the reality we live in today, major environmental risks—large-scale natural cataclysms, changes in land structure, air pollution, and water quality—have become part of our everyday life. Owing to digital technologies, such information reaches us instantly on a global scale.

In these circumstances, media plays an essential role. It is capable of identifying, processing, and disseminating information necessary for the functioning of nature, society, and critical thinking. Of particular importance is the dissemination of scientific knowledge and the active involvement of researchers in various media outlets. Scientific journalism, as a specialized field, helps audiences, form a scientific worldview. Media texts enriched with scientific argumentation provide an effective pathway for analyzing various spheres of public life. From this perspective, the role of specialized media is extremely significant.

Among the many scientific challenges, the interpretation and understanding of climate and environmental issues by the media is especially vital today. Through heightened coverage of environmental topics, society receives essential information and value-based propositions that help construct a scientific picture of the world. At the same time, by reporting on climate and environmental issues, the media influences both individual and collective consciousness and attitudes. Enhancing ecological awareness is directly connected to behavioral change.

It is equally important to note that climate change is one of the most difficult topics to discuss—more complex than conversations about sex, drugs, or religion; on par with the difficulty of discussing death or depression¹. Yet environmental topics are precisely those areas through which local media can rapidly build trust among their audiences. A prevailing assumption in Georgia is that the public is uninterested in climate change and its consequences, as daily social, economic, and political challenges leave little room for concern. However, research paints a different picture: 60% of Georgia’s population considers climate change one of the most significant global challenges, and 91% believe that it poses a real threat to humankind. Thus, the public is far more interested in climate-related developments than urban myths would suggest. Moreover, according to the same study, 64.7% of respondents believe they can contribute to mitigating climate-related risks through changes in behavior or lifestyle. When the media discusses climate-related natural disasters and their fatal consequences, significant scientific findings, and progress achieved in other societies, as well as political trends and issues, it will inevitably find an audience.²

Online Media as an Environmental Communicat

Among contemporary communication tools, online media has become one of the most effective global resources for obtaining information about climate change, environmental protection, and sustainable lifestyles, owing to the reach and accessibility of the internet. Unlike traditional media, the internet is more frequently used to raise environmental awareness because it enables immediate public reaction and participation. Notably, the number of young people actively using new media platforms is increasing. However, the format is not limited to youth—social media platforms are also used by

¹ Rebecca Huntley, *How to Talk About Climate Change in a Way That Makes a Difference* (Crows Nest and London: Murdoch Books, 2020)

² What Georgians know about climate change. 2020
<https://www.undp.org/georgia/publications/what-georgians-know-about-climate-change-2020>

industry actors and governmental bodies as tools for communication with the public.³

Traditionally, the media was perceived as an institution that supports social issues, influences politics, and initiates behavioral change. In the modern world, however, its “research domain” has expanded to reflect social life on a broader scale—presenting culture, politics, and social processes in depth and generating public interest in global issues. Among these global issues are environmental protection, the dissemination of scientific knowledge, and the enhancement of environmental awareness.

Online media plays an especially significant role during ecological crises and major natural disasters (such as earthquakes and floods), when timely, accurate, and content-rich information carries immense value. In the context of climate change, the media traditionally performs three main functions: watchdog, advocate for social issues, and—most importantly—informer of the public. Informing the audience does not merely mean presenting facts; it also requires the effort to disseminate relevant information, place it within an appropriate framework, and make it engaging and meaningful for the audience.⁴

Unlike traditional media, online media has extensive communicative capacities and serves as a suitable platform for conveying social, political, and economic developments in the country. Its technological advantages allow uninterrupted, instant information dissemination, engagement of a wide audience, and the rapid elevation of public awareness. Due to this capacity for intensive coverage, online media acts as a catalyst, drawing broad public attention to critical issues and quickly shaping attitudes. By using modern communication techniques, it motivates audiences to reflect on environmental problems and risks. Digital technologies and social networks serve as

³ Jharotia, A. Role of media in enhancement of environmental awareness. Conference: Power of Media: Shaping the Future, At Tacna Auditorium, 2018

⁴ Aparna Mishra, THE ROLE OF MEDIA IN ENVIRONMENTAL AWARENESS: AN OVERVIEW, International Journal of Education, Modern Management, Applied Science & Social Science (IJEMMASSS), 2021, pp.171-176

effective tools for raising awareness about sustainable development goals—an issue crucial for the future.⁵

Environmental Media Standards and Review of Climate Science Research

The formation of environmental awareness, which depends on the effective action of media, is impossible without adherence to certain rules. Behavioral transformation occurs when the media develops environmental material in line with essential standards. This practice already exists in the developed world, and its adoption should be in the interest of every media organization. If media fail to produce standards-based environmental content, an uninformed society—facing increasing ecological crises—will remain vulnerable and unable to plan preventive measures. The fact that many adults feel hopeless about the future is directly linked to natural disasters. Such psychological states among the healthy segment of society are alarming and constitute a serious problem of contemporary life.⁶

It is crucial to understand best practices employed by leading international media outlets in covering environmental topics—how they interpret and assess environmental issues, set goals, and employ persuasive strategies to shape environmental awareness. This knowledge helps other media institutions develop a vision of what, why, and how to cover environmental topics in order to change existing approaches and attitudes towards ecology and specific environmental challenges facing modern societies.

Most scientists define climate change as a critical issue. Climate-science research is diverse and focused on various aspects of the subject. Western practice often examines media standards for covering environmental themes, contributing to the development of theoretical frameworks. As a result, certain rules and guidelines

⁵Rebecca Huntley, *How to Talk About Climate Change in a Way That Makes a Difference* (Crows Nest and London: Murdoch Books, 2020)

⁶Jharotia, A. Role of media in enhancement of environmental awareness. Conference: Power of Media: Shaping the Future, At Tacna Auditorium, 2018

emerge, based on which journalists must search for, investigate, document, and explain climate and environmental issues.

One relevant study in this regard is by Vinit Kaul, who analyses environmental crises and the role of the media. According to Kaul, the low level of environmental coverage is caused by journalists' limited knowledge of ecological issues, which discourages them from writing or reporting on such topics. The researcher is also critical of current media trends that focus exclusively on the negative impacts of climate change rather than discussing potential solutions. The article highlights a key recommendation: the scarcity of clear and accurate environmental information in the media must be remedied through universally applied practices for climate reporting.⁷

The first and most essential step in overcoming this challenge is activating the media's educational function, one of its core responsibilities. Such content not only mobilizes audience attention but prepares the public to comprehend, deeper socio-political information. Through its educational role, the media has the ability to disseminate comprehensive knowledge on environmental issues.

Of no lesser significance is the production and dissemination of formats such as "environmental shows." When media outlets use this genre to provide timely and substantive coverage of ecological crises, the programmer acquires mass appeal and offers the public the expert opinions of several competent individuals—an invaluable resource.

Interactivity is inherently a key element of communication processes. Media can use this advantage effectively. The organization of "public debates" on potential environmental problems offers citizens a platform to express their views and concerns. Whereas studio platforms are usually reserved for well-known or highly competent individuals, interactive formats allow ordinary citizens—who have fewer opportunities—to have their voices heard, which is vital for public engagement. Initiating public debates yields dual benefits:

⁷ Veneer Kayli, Environmental Crisis and the Role of Media, International Journal of Trend in Scientific Research and Development, Volume 1(4), ISSN: 2456-6470 www.ijtsrd.com, May-Jun 2017

increased citizen participation in media platforms and heightened accountability of those responsible for environmental issues.

The media also has the capacity to perform preventive functions through publicizing individuals who pollute the environment, harm vital spaces, or pose risks, while simultaneously warning citizens about the dangers of pollution. The purpose of such activity is to stimulate critical thinking and guide social processes in a constructive direction. When citizens reflect critically on environmental issues—understanding the damage to ecological balance and the severity of potential risks—the media acts as a catalyst.

Naturally, producing balanced content is a core requirement for the media. This is equally crucial in environmental reporting, as it allows diverse perspectives and opinions to surface. Specialized programs within media organizations offer an efficient avenue for achieving change on a national level. By producing balanced content, the media can exert substantial pressure on actual and potential polluters and influence political actors responsible for environmental governance. This capability must be fully utilized.

Researcher MA Dahlan, in his article “Expanding the Role of Media in Environmental Protection,” discusses, how media functions have changed over time in relation to environmental coverage. Written nearly thirty years ago, the article is noteworthy because it addresses developments in Western media at the time that remain relevant today. Specifically, the shift from focusing on dramatic natural disasters to broader coverage of human-induced environmental issues—such as pollution and misuse of natural resources—mirrors process visible in Georgian media today. This trend serves as a valuable example of how local media should focus on environmental problems. Dahlan concludes that the media must go beyond being a passive observer and instead encourage public participation and socialization in fulfilling environmental norms. His recommendation emphasizes the need for the media to introduce innovations in reporting environmental threats to help the public better understand natural, artificial, and social environments.

We do not assume that Georgian media can uniformly adopt Western practices, as environmental reporting varies across local, regional, and global media landscapes. Media outlets differ in how they perform their functions, shaped by levels of national development and financial resources. Large media organizations can afford specialized environmental and climate reporters, advanced technologies, and high-quality content. By contrast, lower- and middle-income countries often assign general-topic reporters to cover environmental issues—work that inherently requires specialized knowledge. Content prepared without such expertise is inevitably less effective. Moreover, media outlets may cover climate and environmental issues only as part of their main news agenda. Limited financial and human resources, political instability, and censorship further impede high-quality coverage. As a result, the public becomes critical of media outlets that fail to deliver adequate reporting. Journalists’ access to climate-related data, technology, and high-quality production depends on financial resources, political stability, and adherence to journalistic standards.⁸

In Georgia, major obstacles to environmental and climate reporting are described in detail in the study “Assessment of the Capacities, Gaps, and Needs of Georgian Media to Improve Climate and Environmental Reporting” conducted by NNLE Climate Basics for the Westminster Foundation for Democracy (WFD). The findings reveal several key impediments to producing high-quality environmental content. For the purpose of comparison, we highlight a few: mainstream Georgian media shows limited or no interest in covering climate change and environmental issues; environmental reporting is considered relatively unpopular; most coverage focuses on natural disasters or isolated international events; journalists lack adequate training in processing climate-related data; and for many, climate change remains a relatively new topic, with some struggling to recognize its specific effects on Georgian reality.⁹

⁸ M. Allawi Dahl an, EXPANDING THE ROLE OF MEDIA IN ENVIRONMENTAL PROTECTION*, Media Asia, 1994•Taylor & Francis

⁹ Capacity Assessment Report and Strategic Plan for Enhancing Media Knowledge, 2022

Research Methodology

The recent rise in public interest toward climate issues has largely been influenced by the accessibility of social media. Growing climate-related disasters and public anxiety are clearly reflected in social media analytics. However, since social networks also facilitate the spread of misinformation, the role of news agencies—key media actors with large audiences—becomes even more important.

Based on the needs and growing functions of news agencies, the general research problem was identified: examining how regional online media outlets cover environmental issues. Since environmental problems transcend national boundaries, several research questions emerged from this overarching issue:

- To what extent are regional online news agencies interested in climate change and environmental issues?
- What type of content do they produce?
- What scientific knowledge do they disseminate on these topics?
- Do they use interactive formats?
- What contribution do they make to the national environmental media landscape?

For this study, four highly ranked online media outlets operating in Western Georgia were selected: „**Kutaisi post**“, „**Inf. imereti**“, „**First News**“, and „**Top-News**“. Based on preliminary exploration of the field, a sufficiently lengthy timeframe was chosen in order to identify pre-established trends. Synthetic content analysis was used as the research method. As criteria, characteristics extracted from Western online media practices were applied—such as methods of disseminating environmental information, the frequency and scale of environmental coverage, and their contribution to sustainable education and environmental awareness. These criteria allowed us to assess the extent of each outlet’s interest in environmental topics and to develop recommendations.

Observation of the environmental material published by these four outlets shows that among them, „**Kutaisi post**“ provides the most

extensive coverage of ecological topics—although primarily in the form of short informational updates. Analytical articles explaining the causes of the climate crisis appear only rarely.

The analysis revealed that this outlet, like others, prioritizes political, economic, and social issues. Environmental topics appear only occasionally and are discussed alongside the country's most pressing problems. For example, „**Kutaisi post**“ included a news item about the Governor of Imereti's participation in the Eco Forum Guiyang in China. It also contains information related to air and soil pollution, renewable energy resources, and the “ecological genocide” in several villages of Chiatura. Additionally, the media covered a protest near the Kutaisi metallurgical plant (“We Want Oxygen” and “Ecology Is Irreplaceable”), soil contamination caused by a fire on the Gumathesi territory, renewable energy consumption, and the tension between two villages in Chiatura and “Georgian Manganese,” titled “Ecological Genocide in Rgani and Tabagrebi: Disaster Zone in the City of ‘Black Gold.’”

„Firstnews.ge“ *deserves mention for dedicating several articles to ecological problems, including:*

- “The Planet Is on the Brink of Catastrophe – How Should We Combat Plastic Use in the Modern World?”
- “One Day, Humanity Will Face Food Shortages – What Threats Do Environmentalists Discuss?”
- “A New Meeting on Climate Change Issues Was Held with Journalists from Imereti in Kutaisi”
- “Environmentalists Discuss Climate Threats”
- “Five Important Facts About the Black Sea.”

Among „**First news**“ analytical materials, several are notable for featuring experts who analyze environmental problems and propose solutions. For example, in the article about plastic pollution, the journalist interviews Ketevan Tskhakaia, head of the “Spectrum” scientific association of Imereti, discussing why plastic pollution is a major threat and how its use can be reduced.

Another article — “One Day, Humanity Will Face Food Shortages”— is structured as an interview with Nuzgar Kokhreidze, founder of the organization “Dialogue of Generations,” and Elena Gamqrelidze, professor of ecology at Akaki Tsereteli University. They discuss the climate crisis in Georgia and potential solutions.

By contrast, „**Info imereti**“ and „**Top-News**“ primarily focus on economic, political, and social topics. Environmental and ecological content forms an almost negligible share of their material. The items that do appear do not address the essence of the environmental issues.

Results and Conclusions

Based on the aforementioned analysis, it can be stated confidently that in contemporary reality, the media plays a decisive role in covering climate change, pollution, deforestation, biodiversity loss, and other environmental problems. It must not only disseminate environmental material but also raise public awareness and foster a responsible attitude toward climate issues.

This small-scale study shows that the content of Georgian regional online media is overloaded with various urgent topics—primarily politics. Environmental problems receive insufficient coverage in terms of both time and attention.

Although some material on natural disasters can be found, they constitute only a minor portion of the topics that should be covered, and the available content does not offer deep, multidimensional analysis of environmental issues.

The primary cause of this issue may be the limited financial resources of regional media outlets—many survive only minimally or without stable income. Another major problem is the absence of environmental journalists. For a general-topic reporter, covering environmental issues is difficult, as it requires specialized, domain-specific knowledge. As a result, journalists tend to focus on urgent economic and social issues. However, environmental problems are globally acute and affect populations in both central and regional areas equally.

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Climate Change Coverage and Key Aspects of Climate-Smart Teaching

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Abstract

Impact of Climate Change on the agricultural sector is a global issue in the 21st century. Due to the topical nature of the problem, it is essential to effectively communicate with the public. Because of the current political climate, topics that have an impact on development, economy, and wellbeing of the country have remained outside the media's attention. It is also noteworthy that national broadcasting networks, alongside with mass media outlets that are responsible for spreading information, allocate less time to similar topics as mentioned above. The target of our study is the role of the printing press and social media in spreading information pertaining to climate change and ways to mitigate the impact of this phenomenon.

Also, the article discusses existing communication gaps and specific findings, which explain low engagement from the public. Quantitative and qualitative analysis, which serves as basis for our research, helps us make conclusions on: 1) thematic frequency and intensity of coverage; 2) narratives that dominate, with the influence of traditional knowledge; 3) inclusivity of local farmers in media discourse; 4) importance of teaching climate-aware reporting in higher education institutions, within journalism programs.

Main findings of the research make it clear that climate change related topics are discussed in the media as an abstract environmental problem and are rarely connected with specifically agricultural

perspectives. Also, it does not entail information that would help farmers to increase their knowledge and form long term sustainable strategies. Analysis of media content and narratives clearly shows that they mainly focus on disasters and extreme events rather than on the sustainable and adaptive potential of agro-ecological systems. Education on climate-responsible reporting is not part of university curricula, which prevents future journalists from receiving appropriate education.

In summary, existing media practices and improvement of media literacy is one of the decisive factors for achieving agro-ecological sustainability. Considering existing challenges, media organizations must ensure that reporting materials prepared in context of climate change are more ethical, thorough, and contextual. Correcting these errors will help raise public awareness and increase their participation in addressing the issue. The development of appropriate syllabi for climate-aware education must begin in high education institutions, which will provide the new generation of journalists solid training for reporting on global issues such as climate change.

Keywords: *Climate Change; Media; Media Literacy; Climate-Smart Reporting.*

Introduction

Environmental challenges, including climate change, represent one of the most significant issues facing the contemporary world. Despite the fact that developed countries reached agreements years ago on both joint and individual measures aimed at mitigating the damage caused by climate change to agriculture and the economy in general, the problem has continued to intensify and assume an increasingly global character over time. In this context, providing society with objective, comprehensive, and in-depth information is particularly important.

Alongside numerous other challenges, including financial constraints, the professional coverage of climate change and environmental issues poses a serious difficulty for Georgian media, largely due to the absence of relevant academic training. This is confirmed by our in-depth interviews, which were conducted specifically in the course of research on this topic. International experience demonstrates that this

problem is not unique to Georgian media but also affects media systems in highly developed countries. Nevertheless, citizens rely on the media to receive not only dry, often meaningless or sensational information, but also in-depth and scientifically grounded content (Boykoff, 2008).

Although the coverage of climate change and environmental issues poses challenges worldwide, research clearly demonstrates that journalism in this field varies substantially according to countries' economic capacities. Media organizations in high-income countries employ specialized journalists who, in the course of their work, have access to advanced technologies and adequate financial resources. In contrast, media professionals in low-income countries frequently face constraints related to limited funding, economic and political instability, and censorship, which collectively hinder the production of in-depth, high-quality content.

Recent studies confirm that the primary focus of Georgian media is politics and political confrontation, periodically replaced by major crisis events (e.g., the war in Ukraine, the Israel– Hamas conflict, etc.). Media researchers argue that this thematic dominance represents a major barrier preventing climate change—as a non-partisan and complex issue—from securing adequate, regular, and in-depth coverage in Georgian media. The relevance of environmental issues in Georgia is further underscored by the increasing frequency of natural disasters; however, such events are typically covered in a fragmented manner. As a result, the media rarely produces in-depth analyses that would provide the public with more comprehensive information and encourage deeper reflection, including on the role of human activity in these processes. Research findings support this observation, noting that “despite significant environmental challenges, news organizations in Georgia offer limited environmental coverage” (Freedman, 2021).

The media's passivity towards the topic can be attributed to the fact that, according to the research findings, there is a lack of conceptual

differentiation between such fundamental terms as ‘ecology’¹⁰ and ‘environmental policy’¹¹ in the Georgian media space, as well as among a significant segment of society. This ambiguity directly hinders adequate and professional coverage of the ultimate goals of the environmental sector, as well as its perception in society.

In this article, the empirical component of the study examines the perspectives of professors and students in journalism programs at higher education institutions regarding the necessity and appropriateness of *climate-conscious reporting* as an academic discipline. One of the primary objectives of the research is to identify the specific mechanisms through which the syllabus should be integrated into academic curricula in response to educational needs, with the aim of mitigating the existing deficit in journalists’ professional qualifications. In addition, the data obtained clearly confirm that the integration of the syllabus of climate-conscious reporting in terms of educational needs is critically essential for improving media standards in Georgia.

Research results

It has been found during the research that a combination of media and information literacy can empower ordinary citizens to contribute to the fight against climate change.

The online survey conducted during the preparation of this article confirmed that, for the majority of the population, the internet constitutes the primary source of information. Accordingly, media organizations should strengthen their online components to improve information accessibility. This is particularly important given that Georgia has continued to enhance internet connectivity in recent

¹⁰ Ecology is an interdisciplinary science (integrating biology and Earth sciences) that studies the interactions between organisms and the biotic and abiotic elements of their environment.

¹¹ The main goal of environmental protection is to maintain the ecological balance and natural resources of the planet. It achieves this goal by implementing various instruments and measures, including: environmental and sustainable development policy, green economy, environmental protection and health, green business, and others.

years. The country ranks among the most connected within the Eastern Partnership, with the number of fixed and mobile broadband internet subscribers increasing by approximately 50% between 2015 and 2020. Moreover, the digital divide between urban and rural areas in terms of internet access was nearly halved during this period (–64%), decreasing to 12.6% by 2021.

The set of competencies required to understand how climate change occurs, its impacts, and appropriate mitigation approaches constitutes a component of scientific literacy commonly referred to as ‘climate-smart literacy’. These competencies are acquired and applied through information, media, and digital technologies and are therefore closely linked to education.

Citizens who lack the appropriate competencies are vulnerable to climate-related disinformation and unverified claims spread through various forms of online and offline media. This leads to a low perception of climate change and ignorance of the actions we can take individually and collectively.

Responsible media plays a central role in informing and educating citizens about climate change. The flow of information on media outlets and digital communication platforms reinforces the urgency of the crisis, describes the basic facts about climate, and exposes disinformation and other conspiracy theories related to climate change denial. It is therefore crucial that citizens are aware of how this news and online content is created, for what purposes, and based on what sources.

According to the results of the online survey conducted as part of this study, which involved 127 respondents from various age groups, an absolute majority—96.1%—believe that, in light of existing environmental challenges, climate change and environmental protection should be high-priority topics for the media. Citizens and decision-makers with media and information literacy can influence societal attitudes through the dissemination of reliable information.

Main Analysis

In 2019, during the World Economic Forum's assessment of global risks, global climate change was identified alongside cybersecurity and terrorism as one of the most significant threats. This means that all institutions, including the media, have analyzed the consequences of global climate change. The analysis shows that since the end of the last century, the increase in average temperatures and changes in precipitation patterns in Western Georgia have had a measurable impact on the forest ecosystem. In Eastern Georgia, the intensity of forest fires and the spread of pests have increased against the backdrop of heat waves and especially hot days. One of the most negative impacts of climate change is manifested in the frequency of droughts, the decline of water resources and land degradation.

Developed countries and international organizations have long agreed that it is critically important for states to design national climate policies through broad public participation and to ensure inclusive stakeholder engagement. At the same time, the contemporary developed world recognizes that climate change is not limited to natural catastrophes alone, but exerts far-reaching impacts on both the present and future of human societies, far beyond what may initially appear.

Scientists view climate change as a social phenomenon, which is understood differently by different social groups (Hulme, 2013). Research indicates that climate change, as a risk, is perceived differently among communities living within diverse social, economic, and political systems, and that these perceptions are shaped by both objective and subjective factors, including moral considerations (Hopkins, 2013). Accordingly, they believe that it is crucial to pay special attention to climate change at the national political level of developing countries, both in the short and long term, along with other pressing social and economic issues.

According to a 2020 study conducted by the United Nations Development Programme (UNDP) in collaboration with the European Union, climate change was identified by Georgians as the third most significant threat, following poverty and infectious diseases. This finding reflects a high level of public awareness and concern regarding

the severity of the issue. However, in broader surveys, climate change has yet to achieve prominence in political agendas. Notably, the study reports that 97.6% of respondents were aware of climate change (UNDP, 2020).

Scientists agree that the media play a key role in shaping public understanding of climate change as a complex social phenomenon. Experts unanimously recognize that the role of responsible media extends beyond merely reporting the consequences of climate change, emphasizing its critical importance in advocating preventive measures. The Intergovernmental Panel on Climate Change (IPCC) highlights this aspect of media engagement, noting its “defining” influence. According to the IPCC, the media possesses the tools to mobilize public support for climate mitigation policies, shaping societal attitudes necessary for reducing greenhouse gas emissions. However, reports also indicate that this power can be used for the opposite purpose (UN News, 2022).

Although our online survey, as well as other studies cited in the article, indicate that the public recognizes climate change and environmental issues as pressing concerns, these topics do not constitute a priority theme in the media.

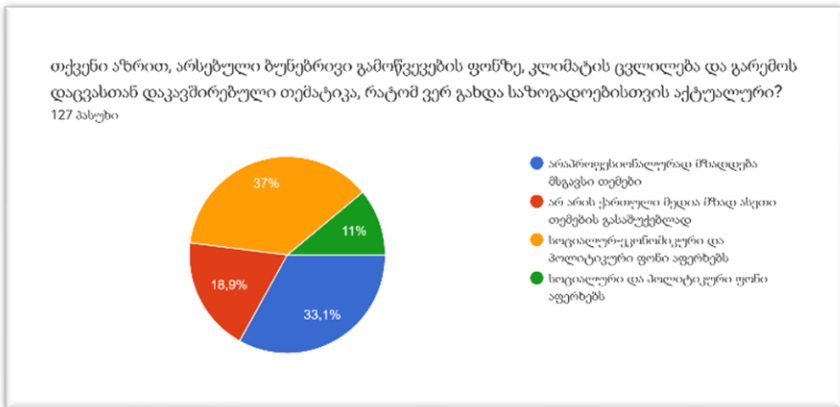


Table 1
Climate change coverage and key aspects of climate-smart teaching, December 2025.

When asked about the reasons behind this, 37% of respondents pointed to the prevailing socio-economic and political context in the country. Additionally, 18.9% of respondents believe that the Georgian media is not adequately prepared to cover such topics, while 33.1% identify the problem in the unprofessional reporting of these issues.

The survey results indicate a lack of professionalism and in-depth coverage in the media. Specifically, in response to the question—how would you assess materials on climate change and environmental protection (in print, television, or social media)—44.9% of respondents reported that the materials produced by journalists lacked in-depth analysis.

Additionally, 21.3% of respondents noted that the materials lacked diversity and did not correspond to their interests, while 4.7% identified complex and technical terminology as a problem. Against this background, in this section of the survey, only 29.1% of respondents felt that the journalistic content they had seen presented issues in a clear and easily understandable manner.

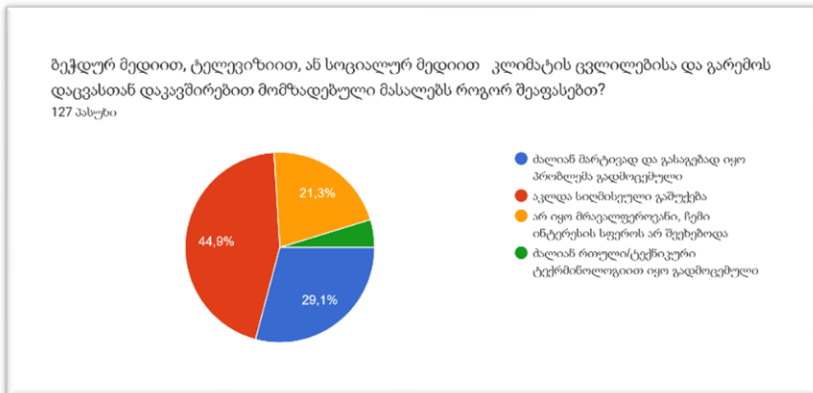


Table 2

Climate change coverage and key aspects of climate-smart education, December 2025.

Journalists specializing in climate change and environmental issues are rare in the Georgian media space, which has its objective reason - due to limited financial and human resources, the media are unable to provide in-depth coverage of one specific direction.

Tsira Gvasalia is a healthcare and environmental journalist. In an in-depth interview, she focuses on the attitudes that subsequently shape journalistic work on environmental topics within the media. Over the course of her career, Tsira Gvasalia has worked for several prominent media organizations, such as “Netgazeti”, “Liberali”, “Radio Liberty” and others. She currently serves as the head of her own media organization “Cactus”. “When I graduated from the Georgian Institute of Public Affairs School of Journalism, I had a clear thematic interest in environmental pollution, because at that time, climate change was not perceived as a threat, not only by myself, but in any sphere of society. “When I went to one of the publications with my specific thematic interests, the editor told me that they did not have the luxury of assigning a dedicated journalist to a particular topic. I encountered the same attitude in other newsrooms as well. Editors would sometimes even mock us, viewing journalists interested in environmental issues as marginal. Because of my professional focus, I often felt isolated, and materials addressing such topics were published only on rare occasions.” The health and environmental journalist notes that editors’ limited interest in these topics is largely driven by insufficient foreign language proficiency, particularly in English. According to her, this constraint hampers the professional treatment of environmental issues and limits sustained journalistic engagement with them. Given the technical and interdisciplinary nature of the subject, Tsira Gvasalia identifies specialized education and training as a key solution. While some media organizations do employ science journalists, for whom professional coverage of climate change and environmental issues is comparatively more accessible, an analysis of media websites indicates that even journalists interested in such topics tend to focus primarily on natural-science perspectives. Only rarely do they attempt to integrate environmental and climate-related issues into broader social, economic, or political contexts.

Insufficient specialized education and financial instability are identified as the primary factors preventing Georgian media organizations from paying adequate attention to climate change and environmental issues in general. Journalist Natia Kuprashvili—Director of the Alliance of Regional Broadcasters and Associate Professor at Tbilisi State

University—aligns with the narrative revealed in the research. She emphasizes that, alongside the limited volume of coverage, there is also a notable scarcity of professionally produced materials addressing these topics. “I would primarily attribute this to a lack of resources, as climate change reporting requires in-depth research. Superficial coverage is insufficient for working on these issues, especially when agricultural matters are involved—fieldwork is essential. Georgian media no longer has the capacity to conduct field reporting, as it lacks the financial means to cover transportation, travel, and related operational expenses. Consequently, the number of field-based journalistic works has declined. It should also be noted that both the media and the public tended to perceive these issues as ‘distant’ topics. Yet today, we witness the impacts of climate change on a daily basis, and the problem has become increasingly tangible.”

Kuprashvili also highlights another key finding related to storytelling techniques in climate change reporting, emphasizing that the acquisition of new skills—developed and institutionalized at the academic level—is essential. As she explains: “We realized that without educational intervention, progress would not be possible. UNESCO establishes standards for higher education curricula across various fields, specifying what they should include. Climate-related and ecology-focused modules are among the core requirements. Without such components, UNESCO does not recognize journalism modules or journalism curricula, emphasizing that it is essential for every country to develop its own adapted modules in this area.” In the in-depth interview, Kuprashvili also addresses issues related to the technical terminology used in climate change storytelling, underscoring the critical role of journalists in translating complex concepts into accessible language—particularly for farmers who are directly affected by climate change. The associate professor argues that addressing this challenge depends on the introduction of climate-focused modules at the academic level, which she views as a necessary step toward improving clarity, relevance, and effectiveness in climate journalism.

In our in-depth interviews, all respondents noted that the Georgian media has failed to establish standards for reporting on climate

change and environmental issues, which primarily leads to distrust of the media among experts and their lack of cooperation with journalists. The solution identified by the study is the integration of a “climate-responsive reporting” discipline into university-level journalism curricula, particularly within faculties of journalism.

Oliko Tsiskarishvili, Associate Professor at Alterbridge University and Doctor of Social Sciences, is among the few Georgian journalists who primarily focus on environmental issues. She notes: “The introduction of specialized courses within journalism or mass communication programs has already become an established practice at many universities, a development I strongly welcome. I believe it is also essential to integrate a course in environmental journalism, where students would engage in an in-depth study of environmental topics—ranging from climate change to waste management.” It is unrealistic to expect graduates of journalism or mass communication programs to possess comprehensive and in-depth expertise across all subject areas. Therefore, journalists who cover environmental issues must have a strong command of this field. At present, practicing journalists tend to address environmental topics only after a tragedy or disaster has already occurred, rather than engaging in sustained, preventive, or explanatory coverage. In the context of global climate change, I consider it the main duty of universities to educate personnel who will work on these issues and raise public awareness before a tragedy. They should create a media product that will be focused not only on raising awareness, but also on analyzing this or that environmental problem before a tragedy. For a country with more than 60 thousand landslide-prone areas, situated in a seismically active zone, where glaciers are retreating year by year and flash floods are part of everyday life, the preparation of such professionals is critically necessary. Environmental protection issues are a global problem and it is necessary to change the awareness of the broad masses of society. This cannot be achieved without the development of specialized journalism, in which a central component must be the in-depth coverage of environmental problems.

As a solution to issues related to low professionalism among journalists, the overwhelming majority of respondents (91.3%) in our

online survey support the introduction of a “climate-responsive reporting” syllabus at university-level journalism faculties. At the same time, only 7.1% of participants believe that such a change would not substantially improve the situation.

Batumi Shota Rustaveli State University is among the few higher education institutions where “climate-responsive reporting” is formally taught. Professor Inga Shamilishvili, Head of the Journalism Program at BSU, notes: “Climate change and environmental issues together shape the economic and social environment in which we live. The contemporary world has agreed that addressing this global challenge is possible only through the engagement of all segments of society. In shaping public opinion, the media plays a decisive role. For this reason, we have introduced the course on ‘climate-responsive reporting’ into our curriculum. I believe that the new generation of journalists will approach these topics with a significantly higher level of professionalism, which will, in turn, positively influence public awareness.” Moreover, Georgian media lacks an established “institutional tradition” for covering climate change and environmental issues. As a representative of the Georgian office of an International Media notes:

“We are a relatively young media organization with limited resources,” highlighting the shortage of experience and thematic expertise necessary for specialized reporting within editorial policies.

Conclusions and recommendations

The present study indicates that coverage of climate change and environmental issues in Georgian media is characterized by fragmentation, a focus on sensationalism, and a lack of systematic knowledge.

- Limited financial and human resources of media organizations, coupled with the dominance of political discourse, constitute the main barriers to in-depth and regular coverage of climate change as a complex, non-partisan social issue.
- Coverage is predominantly focused on disasters and extreme events, which frames the issue as an abstract environmental

concern and rarely connects it to broader social, economic, or agricultural contexts. As a result, the media provides limited reporting on adaptive capacities and preventive strategies.

- It was determined that the Georgian media landscape lacks an “institutional tradition” for covering these topics. This issue stems not only from limited resources but also from the absence of specialized education in the academic sphere, which leads to a deficit in the qualifications of future journalists.
- Despite existing shortcomings, the study confirms the IPCC’s view of the media’s “defining” influence. The full potential of this influence can be realized only if the media moves beyond superficial, spectacle-driven reporting toward scientifically grounded, ethical, and contextually informed coverage.

The primary recommendation is the mandatory integration of “climate-responsive reporting” as a compulsory course, rather than an elective, in undergraduate and graduate programs in journalism and mass communication.

- Interdisciplinary education: New syllabi should be interdisciplinary, encompassing not only the principles of journalism but also the fundamentals of climate science, agroecology, economics, and environmental law.
- Conceptual clarity: Academic programs should ensure that students develop a clear differentiation of fundamental terms, such as ecology and environmental policy.
- Despite limited resources, media organizations should seek avenues (e.g., grants, donor-funded projects) to train and retain specialized journalists (environmental reporters).
- The focus of coverage should shift from disasters (post-tragedy reporting) to prevention and adaptation (pre-tragedy analysis).
- The establishment of professional standards will help increase experts’ trust in the media, which is essential for the dissemination of scientifically grounded information.

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Environmental Journalism in Georgia: A Critical Assessment of Current Practices

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Abstract

This article explores how and at what stage environmental and climate issues become topics of media interest—gaining informational relevance and socio-political significance—and to what extent we encounter the practice where environmental and climate-related topics fail to enter the media agenda unless they involve an element of sensationalism. The study is based on a multifaceted analysis that includes various academic and journalistic research, statistical data, and in-depth interviews with experts. The analysis of this material provides an understanding of what types of environmental issues appear in the media sphere and at what stage they are covered. The lack of discussion around these topics has diminished public attention toward crucial issues such as environmental protection and climate change. Observation of recent media content shows that environmental topics have become relatively secondary for the media, despite the fact that these are precisely the issues reflecting systemic challenges—challenges whose neglect could lead to more tragic consequences in the future. Therefore, it is the media’s responsibility not only to respond to outcomes but also to increase the frequency of reporting on topics that may not be considered “news” today, yet may become tomorrow’s tragedy—tragedies that could be prevented or at least mitigated through early awareness. The paper discusses several specific cases that only received media attention after the events took

on a dramatic character—such as the tragedies in Shovi and Baghdati, the incident in the village of Nergeeti, and the landslide hazard zone in Vashlijvari. However, the article also describes opposite practices. The main focus of the study is on the Georgian media as an institution that is overly oriented toward sensationalism rather than prevention. To illustrate this, three examples from the recent past are analyzed.

In August 2023, the landslide in Shovi became one of the most large-scale ecological and humanitarian disasters Georgia has faced in recent years. The event clearly demonstrated the growing significance of geological risks caused by climate change and revealed how unprepared society remains in the face of such threats. What makes the Shovi landslide particularly alarming is the fact that geological and hydrometeorological risks associated with the area had been documented in advance—both by state agencies and independent researchers. However, this information never became a subject of media interest until the tragedy occurred. According to the 2024 reports of the National Environmental Agency, which discuss the causal factors behind the Shovi disaster, the Racha region has repeatedly been identified as highly sensitive—particularly due to deforestation and soil saturation resulting from climate change. One of these reports specifically indicates that the Racha-Lechkhumi zone is characterized by high landslide activity and unstable land surfaces. It also emphasizes that the increase in atmospheric precipitation caused by climate change, combined with forest degradation, significantly heightens the risk of landslides. The geological profile of Shovi already suggested that even a minimal trigger could have been enough to initiate a catastrophic landslide. The delayed reaction of the media manifested in the near absence of coverage on these issues until the disaster claimed dozens of lives and destroyed infrastructure. This reflects a central problem—the media’s approach is reactive rather than preventive.

On February 7, 2024, a rockfall-type landslide occurred in the territory of the village of Nergeeti, in the Baghdati municipality. This part of Imereti belongs to the category of geologically active and landslide-prone areas and has appeared multiple times in national mapping projects of geological hazard zones. During that period, the region

experienced intense and prolonged rainfall, which triggered the slope's mobilization for the landslide. Late at night on February 7, the landslide in Nergeeti blocked the central highway on the right bank of the Khanistskali River and destroyed four houses. Rescuers recovered nine bodies from the debris. Residents told *Radio Liberty* that they had observed creeping soil movement and cracks on the slope for a long time. Several locals also mentioned that one of the residents had even brought a geologist to inspect the site. According to the 2023 informational bulletin of the National Environmental Agency's Geology Department, landslide activity was expected in seven villages of the Baghdati district that year—one of them being Nergeeti. The village had previously drawn the agency's attention multiple times. As noted in *iFact's* investigation (July 30, 2024), the local government was well aware that the area was landslide-prone, as one resident's property had been inspected twice, in 2017 and 2022. The Baghdati landslide clearly illustrates that information gathering, assessment, early warning, and prevention remain systemic shortcomings—despite existing research, issued recommendations, and extensive data availability.

From a geological standpoint, the Vashlijvari area is one of the most problematic zones in Tbilisi. The landslide that occurred there damaged the roadway, resulting in the restriction of two-way traffic on Machavariani Street and the adjacent slopes. Water pipes were also damaged, and the large-scale ground movement posed a serious threat to the safety of local residents. For years, both the National Environmental Agency (NEA) and various urban development documents of Tbilisi have noted that Vashlijvari is considered a region of high landslide activity. One such project was conducted in 2019 by the Geology Department of the National Environmental Agency under the Ministry of Environmental Protection and Agriculture of Georgia. The project provided an extensive assessment of Tbilisi's engineering-geodynamic conditions and geological hazards. According to the data, the Vashlijvari area is particularly vulnerable to landslide processes due to the steep slope angle, the presence of soft geological layers, and the unregulated flow of surface waters. Vashlijvari was included among the zones where urban load was not supposed to increase because of existing geological risks. However, the plan's

recommendations were ignored both by governing bodies and by some developers. In this case as well, despite prior knowledge and warnings, the media practically failed to cover the risks in Vashlijvari until the landslide had already caused visible damage. The Vashlijvari case exemplifies how the lack of public discussion on environmental and climate-related risks emerges when the media avoids proactive analysis and preventive reporting.

In recent years, the trend of covering climate change and environmental protection topics in Georgia's media space has become increasingly active. Despite a number of challenges that demonstrate the opposite practice, there are still examples where the media adopts preventive and proactive approaches in reporting environmental and climate-related issues. Such practices contribute to changing today's media reality, raising public awareness, and supporting the adaptation of traditional news delivery models. A recent example of preventive media engagement can be seen in the coverage of the development project in the Goderdzi Pass area. On March 13, 2024, *Tok TV* published an investigative piece by Lamuna Iremashvili that explored how the proper development of the Goderdzi resorts should be carried out, emphasizing risk assessment and the consideration of local community interests. The article included interviews with Hurie Abashidze, a member of the organization *Solidarity Theme*; Jemal Saginadze, a Khulo resident and civic activist; Irakli Mikeladze, a representative of CENN; and Nadim Vasadze, the Deputy Mayor of Khulo. Beyond providing synchronized updates at each stage of the project's progress, their subsequent report featured an innovative approach—using drone technology to engage in dialogue with local residents. (This report later received a special European Union award.)

Another example from *Tok TV* is the article "Landslide in Ude–Adigeni", published by Misho Darbaidze on March 13, 2025. The piece tells the story of a landslide that struck the village of Ude a year earlier, destroying houses and forcing residents to abandon their homes and relocate. The report includes comments from Gocha Khimadze, the Mayor of Adigeni, as well as assessments from local residents and

Nino Chkhobadze, the head of the NGO *Green Movement – Friends of the Earth*.

It is also essential to highlight the journalistic work of *Mtis Ambebi* (“Mountain Stories”) in covering environmental and climate issues. *Mtis Ambebi* is an independent news outlet that actively reports on the major challenges faced by people in Georgia’s highland regions through in-depth storytelling and multimedia journalism. One notable example is the article published on August 12, 2021, titled “What Is Happening Around the Namakhvani HPP – The Untold Details of the Mediation Process.” The piece provides an overview of the events surrounding the Namakhvani hydropower plant and focuses on the undisclosed aspects of the mediation process. The article explains how the HPP issue evolved from being merely an energy policy matter into a broader topic of social, political, and legal debate. It presents the perspectives of various stakeholders—civil activists, government representatives, the investor company, and international organizations—and raises critical questions about the fairness and accountability of the mediation process. Ultimately, the article highlights the growing crisis of trust between the state and segments of Georgian society.

Climate change and environmental problems are regarded as some of the most significant challenges of the modern world; however, these topics often receive limited attention in the daily media agenda. Despite the alarming scale of global warming, ecosystem degradation, and the depletion of natural resources, media practices in covering these issues in a systematic and deeply analytical manner are often fragmented and inconsistent. A range of underlying factors contribute to this situation—factors that determine the selective attention and prioritization of topics within the media landscape. One of the main factors is economic interest, which influences both the management of media platforms and their editorial policies. In commercial media, the priority remains to cover topics that are considered engaging and “profitable” for a wide audience segment. Another significant factor is the complexity and weight of the topic itself. Climate-related issues require detailed analysis, interpretation of scientific data, and assessment of long-term consequences—all of which are difficult to

reconcile with the media's inherent preference for speed and simplicity. Public perception also plays a major role in shaping media choices. Society has yet to fully develop a deep understanding of the climate crisis, which results in relatively low interest in the topic. The media, in turn, tends to cater to audience expectations rather than challenge their ideological frameworks—further deepening the informational vacuum surrounding environmental issues.

To develop concrete recommendations, in-depth interviews were conducted with various specialists. Analysis of these interviews clearly showed that coverage of climate and environmental issues in Georgian media requires both structural and content-related improvements. Although there are journalists and media platforms actively working to highlight these topics, the general practice still faces deficiencies in frequency, depth, and professionalism. When respondents were asked about potential recommendations during the study, their insights went beyond individual opinions and outlined specific practical directions capable of influencing media quality, journalists' awareness, and strategies for covering climate-related topics. These recommendations are grounded in direct professional experience, both in journalism and environmental work. Coverage of climate and environmental issues in the Georgian media landscape requires significant improvement at content, systemic, and organizational levels.

First and foremost, the media must become an active intermediary between society, government institutions, and the business sector. As Natia Kuprashvili notes: *"We need to somehow facilitate dialogue with businesses and government institutions and increase local citizens' participation. Divided opinions and interests cannot exist on this issue, because future outcomes and the situation affect all three equally."* Beyond thematic dialogue, the media's internal organizational structure requires improvement. It is essential to systematize effective and reliable information sources and create easily accessible platforms (hubs) for journalists. Nona Samkharadze emphasizes: *"Hubs should be established so that journalists know whom to contact as a reliable respondent. Additionally, journalists' awareness must be raised, and professional staff should be retrained."* The existence of

such systems would reduce superficiality and alarmist tendencies. The media's role should not be limited to reacting to crisis situations. There is a need to develop preventive communication, including the implementation of systematic alerts about climate-related threats. Nugzar Suaridze states: *"We should not be trailing behind like a lamp; we need to develop a system of preliminary alerts, and this should operate on a daily basis."* From a geological perspective, earthquakes, landslides, and droughts are constant natural threats in Georgia, making this one of the most important recommendations. Finally, it is essential to activate individual and ethical responsibility in journalism. As Irakli Macharashvili notes: *"Many must put their heart into their work and remain independent."* This position underscores that coverage of climate issues cannot rely solely on institutional reforms—it requires journalists' personal motivation, awareness of professional standards, and a deep understanding of the topic's significance. The recommendations outlined above provide a solid foundation for the comprehensive development of climate coverage in Georgian media. Following them ensures not only public awareness but also pressure on state institutions and contributes to the shared goal of building an ecologically sustainable future. The media inherently holds unique power in shaping public consciousness; it can shift the areas of societal interest and focus with relative ease. It also has the capacity to influence people's values and behavior—for example, the more actively and systematically climate and environmental issues are covered, the greater public engagement and demand for such information will become. The media must approach these topics with the same responsibility as it does other "hot" issues, such as politics, conflicts, or emergency events. Consequently, there is an urgent need to: Re-evaluating priorities in the media to ensure that environmental and climate change issues become a permanent part of coverage—not only as reactive reporting but as an element of preventive policy. Implementing a systematic information policy that does not wait for catastrophic outcomes but actively communicates predictable threats with the same enthusiasm and urgency as political or social topics. Sustainable collaboration with state institutions, including geological services, the National Environmental Agency, and academic circles conducting research and projects and subsequently publishing their

findings. Engagement of civil society and media support for analytical and scientific information, allowing the public to at least superficially understand how ongoing changes may impact the environment. If the media landscape adopts these recommendations, it will be possible to exert a long-term influence on public opinion. Strengthening preventive analysis and communication is therefore an urgent task, directly linked to the protection of human life, ecosystem sustainability, and societal well-being. The practical implementation of these recommendations would enable the media to become not only a reactive tool but also a preventive and educational force—an essential component for fostering a society resilient to climate crises.

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Improving Business Communication: A Crucial Factor for Success Among Agro-Entrepreneurs in Georgia During the Post-Pandemic Era (with a Focus on Gender Aspects)

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Abstract

In the aftermath of the Covid-19 pandemic, this paper delves into the vital domain of agricultural communication, with a specific focus on the challenges confronted by agro-entrepreneurs in Georgia. In a world continually shaped by globalization and digitalization, effective communication has become indispensable in the agricultural sector. This study explores the evolving landscape of agricultural communication and its significance in the post-pandemic context. By examining insights from both developed and developing nations, the research seeks to identify the essential skills required by farmers and producers to not only sustain their farms but also thrive in the global marketplace.

The agricultural sector finds itself at a crossroads where traditional practices intersect with modern demands. Amidst the global integration of economies and the accelerating pace of digitalization, communication has emerged as a linchpin for success. The Covid-19 pandemic further underscored the urgency of effective communication, compelling agro-entrepreneurs to adapt swiftly to the changing dynamics of the market. This paper aims to unravel the

intricacies of agricultural communication, shedding light on the skills imperative for agro-entrepreneurs to fortify their businesses, enhance their production methods, and successfully market their products.

Our research adopts a qualitative approach, specifically utilizing Desk Research and In-Depth Interviews to delve into the core aspects of agricultural communication and content analysis. Focusing on key agricultural sectors, namely livestock, poultry, and vegetable industries, we conducted a total of 9 in-depth interviews. These interviews encompassed representatives from small, medium, and large farms within these sectors.

In our exploration, we hypothesized that media coverage predominantly highlights medium and large-scale farmers. To address the imbalance, we purposefully sought out representatives from small farms, recognizing their lack of visibility and limited access to communication resources. Random encounters at agricultural markets facilitated interviews with small-scale breeders, poultry farmers, and plant growers, offering valuable insights into their challenges and perspectives. For medium and large-scale entrepreneurs, we employed targeted methods. By using specific keywords like "farmer," "agro agriculture," "animal husbandry," "poultry farming," and "Poultry farming" in search engines, we identified potential interviewees mentioned in publications. Additionally, collaboration with municipal authorities provided leads to large and medium entrepreneurs, enabling us to approach them for interviews via telephone calls.

To conduct content analysis, we studied the media outlets named by the entrepreneurs. Through our key search terms: farmer; agro Agriculture; animal husbandry; poultry farming; Poultry farming; farmer; Egg: Chicken; meat: milk; wine: winemaking; honey; beekeeping; tea Horticulture: Nuts; nut; blueberry laurel tractor; covid pandemic (as the last two additional words). We found articles, news, interviews, and analyzed them. We examined materials published during the last 5 years (2019-2023), as the subject of our research is the problems created in agricultural communication during the Covid pandemic and the investigation of the post-pandemic reality. As a result of observing 3 media outlets, we reviewed a total of 78 articles.

It is significant to note that almost 50% of people involved in agriculture in Georgia are women. Our interviews were conducted with both female and male participants, although a preliminary hypothesis of our study is that female participants receive little or no media coverage.

Researches Strategie:

The categorization of entrepreneurs into small, medium, and large scales was guided by the prevailing Georgia's tax code, effective since January 2011. According to this code:

Small Entrepreneurs: Individuals with an annual income not exceeding 500 thousand GEL.

Medium Entrepreneurs: Those with an annual turnover ranging from 500 thousand GEL to 1.5 million GEL.

Large Entrepreneurs: Individuals whose annual income surpasses 1.5 million GEL.

By employing a meticulous blend of random encounters and targeted searches, our research successfully incorporated the voices of small, medium, and large-scale entrepreneurs in the agricultural domain. This nuanced approach ensured a comprehensive understanding of the communication challenges faced by diverse farm sizes, enabling us to draw meaningful conclusions and recommendations from our study.

To accomplish our research objectives, a meticulously designed questionnaire was formulated for conducting in-depth interviews (please refer to the appendix for details). The selection of interview type was crucial in eliciting comprehensive insights from the participants. In this context, we opted for the multi-structured interview format. This approach involves the researcher preparing a set of questions in advance. However, unlike unstructured interviews, where informants are left to navigate the conversation independently, in a multi-structured interview, the questionnaire's author actively assists the interviewer. This collaborative approach was adopted to ensure maximal information retrieval from the participants, aligning with the depth and scope of our research objectives.

Research Baseline

Researchers¹² have emphasized that agricultural communicators require not only technical proficiency in communication but also a comprehensive understanding of the agricultural domain. They stress the significance of identifying the audience, crafting targeted messages, and delivering them effectively for successful communication. Moreover, professional skills such as building trust, assuming responsibility, and fostering critical thinking are deemed essential for agricultural communicators.

In Georgia's agribusiness sector, a notable gender imbalance persists, with a substantial presence of women in the workforce often overshadowed by their limited visibility in the media. Despite the significant number of women actively engaged in agribusiness, they remain largely absent from interviews and media coverage, frequently overshadowed by male sources. This trend raises questions about representation and inclusivity within the industry's narrative. While this phenomenon is observed in Georgia, it prompts reflection on whether similar patterns exist globally, highlighting the need for increased attention to gender equity in agribusiness media coverage worldwide.

The utilization of social media platforms in agricultural marketing has surged¹³, with farmers predominantly relying on mobile phones for communication. Social media has emerged as a pivotal tool in agricultural marketing, offering substantial opportunities for selling agricultural products and enhancing customer relations. In their scholarly article titled "A Study on the Role of Social Media in Agriculture Marketing and its Scope," authors Bite Bhalchandra Balkrishna and Dr. Anand A. Deshmukh explore the transformative potential of information and communication technologies, particularly mobile phones, in advancing the agricultural sector. According to the

¹² Fawn Kurtzo, Maggie Jo Hansen, K.Jill Rucher, Leslie D. Edgar. 2016. "Agricultural Communication: Perspectives From the Experts". Journal of Applied Communications.

¹³ Win Morrys, Penri James. 2017. "Social media, an entrepreneurial opportunity for agriculture-based enterprises". Journal of Small Business and Enterprise Development.

authors, adapting to these new tools necessitates the acquisition of novel skills and competencies.

Scientists have identified social media as the primary channel and tool for agricultural communication. Research findings indicate that social media platforms streamline the process of acquiring new information for farmers, saving both time and money. However, enhancing two-way communication hinges on improving mobile phone network coverage in rural areas.

In a comprehensive analysis of Georgia's media system, researchers have pinpointed key challenges hindering agro-communication for the Agricultural and Rural Development Project (ALCP)¹⁴. The challenges identified in this study encompass:

- Lack of awareness regarding the benefits of one's own model
- Limited proficiency in agro-communication and agro-journalism
- Scarce communication resources and challenges related to information accessibility
- Inadequate understanding of the target audience, coupled with a lack of audience studies
- Insufficient material and technical resources and equipment.

Communication Skills of Small Entrepreneurs: Challenges and Adaptations

In-depth interviews conducted with small entrepreneurs underscore the diverse avenues they explore to gather information pertinent to their fields. For instance, Marina Cheishvili (woman), a plant grower residing in Kvitiri village, Tskaltubo municipality at the age of 50+, primarily relies on television broadcasts for her agricultural insights. In contrast, Ani Khvadagian (Woman), a 20 to 35 year-old poultry farmer from Nagarevi village, Terjoli municipality, turns to social networks for information. Similarly, Jay Mamashlisi, a 43-year-old shepherd from

¹⁴ Rachel Shah, Kate Fogelberg. "Developing Media Markets to Address Agricultural Constraints A case Study from the ALCP Georgia". "Springfield Centre". 2019.January.

Gumati village, Tskaltubo municipality, accesses relevant information through social networks.

These interviews highlighted a significant age-related discrepancy not only in the utilization of traditional versus alternative information sources but also in crisis management strategies. The COVID-19 pandemic, severely impacting product sales, compelled small entrepreneurs to adapt. Marina Cheishvili found her usual avenues for herb sales blocked, leading to financial distress. In contrast, Ani Khvadagiani and Jay Mamashlisi successfully transitioned to social media platforms to sustain their livelihoods.

Small entrepreneurs voiced dissatisfaction with the media's coverage of their industry. Marina Cheishvili, for instance, suggested airing specialized programs on horticulture and agriculture during evening television slots, aligning with her viewing hours. Despite being aware of online tutorials, she lacks internet access and the requisite skills to benefit from them. The absence of media contacts made it impossible for her to address a critical issue related to a purchased fertilizer that proved harmful.

Regarding state programs, small entrepreneurs exhibited varied awareness levels. Older entrepreneurs perceived SMS notifications about bank loans as beneficial, whereas younger entrepreneurs felt inadequately informed about available programs. Moreover, they emphasized the importance of not just receiving funds but also understanding their optimal utilization for farm development, such as acquiring fertilizers, expanding land, or hiring agronomists.

Small entrepreneurs unanimously agreed on the need for accessible information to enhance their communication skills. However, their perspectives on how this should be achieved differed. Older entrepreneurs advocated for agricultural-focused TV broadcasts featuring communication skill lessons. In contrast, younger entrepreneurs proposed a dedicated television channel specifically tailored to agricultural topics, providing essential skills and knowledge for entrepreneurs.

This disparity in opinions highlights the urgency for targeted communication strategies that cater to the diverse needs and age groups within the small entrepreneur community. Addressing these challenges is essential to ensuring the holistic development of the agricultural sector in Georgia.

Communication Skills of Average Entrepreneurs: Perspectives and Practices

Our exploration into the communication practices of average entrepreneurs revealed diverse approaches within this group. For instance, Zurab Janelidze (Man), a 70 + year-old average grower, and the founder of "Herbia" in Tskaltubo municipality, obtains information about his field from various communication channels, including media sources. Similarly, Valida Tsertsvadze (woman), a 40 + -year-old average poultry farmer, primarily relies on the internet, books, and interactions with colleagues for information, excluding traditional media from his sources. Emiko Koghuashvili (man), an average breeder from Ofshkvit village, Tskaltubo municipality, uses social networks and occasionally turns to traditional media sources like TV channels "Imedi" and "Agrogaremo."

Regarding media coverage, there exists a spectrum of opinions among average entrepreneurs. Zurab Janelidze feels the agricultural sector needs more media attention, whereas Emiko Koghuashvili believes the existing coverage is adequate. While Valida Tsertsvadze agrees that the media portrays the sector well, he personally does not rely on media sources for his information needs.

Zurab Janelidze, the founder of both "Herbia" farm and "Gurian Product," maintains contacts with media producers and journalists, offering him the ability to reach out when necessary. Surprisingly, he has never contacted the media for his livestock-related issues, although he acknowledges the need to do so on multiple occasions.

Valida Tsertsvadze, the poultry farmer, appreciates the media's coverage of agriculture, even though he does not personally derive information from them. Conversely, the average grower, Zurab Janelidze, advocates for a systematic approach, proposing the creation of a comprehensive problem list within the agricultural sector.

He suggests involving media, state entities, and the private sector to address these issues collaboratively. Additionally, he emphasizes the importance of entrepreneur training through specialized programs aired on television channels, particularly for the medium livestock industry.

Regarding communication skills, both the plant grower, Zurab Janelidze, and the poultry farmer, Valida Tsertsvadze, express confidence in their abilities. Notably, the "Herbia" farm employs five individuals dedicated to public relations. Emiko Koghuashvili, the average breeder, believes that learning communication skills can be engaging and valuable, underscoring the importance of continuous improvement in this domain.

These diverse perspectives among average entrepreneurs underline the need for tailored communication strategies and educational initiatives, aligning with the specific requirements and outlooks within this vital sector.

Communication Strategies of Large Entrepreneurs: Diverse Approaches and Challenges

Our research delved into the communication practices of large entrepreneurs, revealing a variety of sources they tap into for information. Mamuka Tsilosani, a significant figure in the cattle industry and owner of "Doran" farm in Akhmet municipality, exclusively relies on the milking association for information. In contrast, Ani Vashakidze, the Marketing Manager of the poultry company "Chirina Biu Biu Chicken Meat Production," utilizes Saxstat and the Revenue Service, highlighting the diverse channels available for large poultry farmers. Dimitri Bankanashvili, a large plant grower engaged in entrepreneurial activities in Sirnaghi municipality, accesses information primarily through the Internet.

When it comes to media preferences, Mamuka Tsilosani does not rely on any media outlet. Dimitri Bankanashvili occasionally watches the "B-MJ" channel, while Ani Vashakidze follows "Agro-environment" on television and engages with social networks, particularly the "Imedi" website.

Large entrepreneurs had varied opinions on media coverage within the agricultural sector. While Mamuka Tsilosani believes media involvement is sporadic, Ani Vashakidze feels the sector needs more attention. Dimitri Bankanashvili, on the other hand, thinks media coverage is insufficient.

In terms of communication skills, Ani Vashakidze, equipped with social media proficiency, utilizes these platforms to sell products and foster business relationships. Mamuka Tsilosani, although lacking a social media presence, believes he possesses adequate communication skills. Both these entrepreneurs have access to state programs. During the pandemic, while Mamuka Tsilosani remained unaffected, Ani Vashakidze's company adapted to digital platforms, enhancing their teamwork and flexibility.

Large entrepreneurs faced challenges during the pandemic, particularly related to artificially created shortages. For example, "Chirina Bu Bu Chicken Meat Production" encountered production disruptions due to shortages of masks and gloves. Procurement challenges arose, requiring additional funds and causing delays in orders.

Regarding the development of communication within the sector, opinions varied. Dimitri Bankanashvili stressed the importance of education, advocating for media involvement in promoting innovative ideas. Mamuka Tsilosani emphasized the need for media coverage to address sector issues, such as misleading consumer practices. Ani Vashakidze highlighted the importance of training sessions and continuous information exchange for technological progress and agricultural development.

These diverse perspectives underscore the multifaceted nature of communication challenges faced by large entrepreneurs, highlighting the need for tailored solutions and a proactive approach to addressing these issues within Georgia's agricultural landscape.

Content Analysis

As part of our research, we conducted a content analysis of materials published between 2019 and 2023 in the field of agriculture across

three selected media outlets (Imedi TV, Agrogaremo TV and BMG). Utilizing search engines and specific keywords, we identified a total of 78 materials. The content predominantly focuses on the challenges or achievements of large entrepreneurs. Notably, the coverage of medium entrepreneurs is infrequent, and small entrepreneurs are entirely absent. For instance, among the 78 materials, we found 29 featuring large entrepreneurs, 11 featuring medium entrepreneurs, and none featuring small entrepreneurs. The materials underscore that communication skills are well-developed among large entrepreneurs, enabling them to articulate their challenges or successes effectively to journalists and audiences.

Of the 78 materials, 38 were published during the pandemic period, with the remaining 40 materials originating from the post-pandemic era. Addressing our research questions, we sought to determine during which period entrepreneurs exhibit more effective communication with the media and, consequently, with society at large. Empirical examples indicate that post-pandemic agribusiness representatives demonstrate enhanced communication skills, suggesting accrued benefits gained during the pandemic.

An alarming observation emerges regarding gender representation, as only 2 out of the 78 journalistic works feature women as sources. All other human sources cited in the materials are men, highlighting a pronounced gender imbalance in media content. This reinforces the need for increased efforts to address and rectify gender disparities in the portrayal of agribusiness professionals in the media.

Conclusion

Based on the in-depth interviews conducted with entrepreneurs, it was revealed that farmers predominantly rely on traditional media channels for information related to their field. While some entrepreneurs mentioned social media as an information source, they also referred to the web pages of television stations. Notably, the study highlighted the significance of niche media (such as BMG and agro-environment) over mainstream media among the interviewed entrepreneurs.

The variation in information sources was linked to the age of the respondents. For instance, individuals aged over 60 primarily obtain information from television, whereas younger and middle-aged entrepreneurs tend to rely on social networks for their information needs.

Entrepreneurs expressed dissatisfaction with the media's attention to the agricultural sector, citing the poor quality of content provided to viewers.

Interestingly, our research findings aligned with those of a survey conducted by IRI Georgia. While the IRI study focused on gauging public trust in various media outlets, it coincided with our investigation in terms of media preferences and internet usage patterns. According to the IRI survey, 38% of respondents trusted TV Imedi, and 66% reported using the internet or social media almost every day, with Facebook being the platform of choice for 95% of respondents. Similarly, our interviewed entrepreneurs identified TV Imedi as a valuable information source, often accessed through social media channels. Additionally, during the Covid pandemic, these entrepreneurs extensively utilized Facebook for product sales.

Regarding communication skills, entrepreneurs were categorized into two groups: small entrepreneurs exhibited limited communication skills, whereas medium and large entrepreneurs either possessed these skills themselves or had dedicated PR employees. Small entrepreneurs, especially the younger ones, expressed the need for improved communication skills. They advocated for agricultural-focused television programs that provide lessons on effective communication.

The study validated the hypothesis that the digitalization of agribusiness during the pandemic had a moderately positive impact on agribusinesses, notably enhancing their communication skills. Additionally, hypothesis regarding the media favoring a gender imbalance in favor of men was substantiated. The media exhibited a tendency to either entirely omit or inadequately feature female sources in their coverage.

A notable insight emerged concerning innovation adoption. Entrepreneurs perceived innovations as potentially risky and tended to avoid them. Therefore, they emphasized the importance of media involvement in disseminating information about agricultural innovations. Farmers stressed the need for collaboration between media outlets and relevant state actors to facilitate training sessions and foster continuous information exchange. This collaborative effort, they believed, was essential for technological progress and the overall development of the agricultural sector. These findings resonate with the core tenets of our research, specifically emphasizing the role of constructive, problem-solving oriented journalism in addressing industry challenges and encouraging innovation adoption within the agricultural community.

In-Depth Interview Questionnaire:

1. Full Name:
2. Where do you primarily source information related to your field?
3. Which media platforms do you rely on for information: print media, radio, television, or social networks?
4. In your opinion, how effectively do the media cover topics related to your field?
5. Have you ever engaged with any media outlets? If yes, was it through personal connections or with the assistance of others?
6. What specific aspects do you believe the media should focus on regarding your field?
7. How confident do you feel about your communication skills and their impact on your professional success?
8. How frequently do you use social networks for both personal and professional purposes?
9. To what extent have social networks aided you in product sales and establishing business connections with partners?
10. How accessible is information about various programs initiated by state authorities for entrepreneurs to you?
11. How has the COVID-19 pandemic affected you and your farming operations?

12. Have you felt the need to acquire new communication skills due to changes brought about by the pandemic, and if so, have you been successful in doing so?
13. Could you recall any instances of misinformation spread by the media that had negative repercussions on your farming activities or the sale of your products?
14. In your opinion, what steps should be taken to help entrepreneurs acquire or enhance their communication skills, especially if they currently lack proficiency?
15. Age:
16. Gender:
17. Annual Income Bracket: a) Up to 500 thousand GEL b) 500 thousand to 1.5 million GEL c) Above 1.5 million GEL
18. Date of Interview:
19. Location of Interview:

We conducted in-depth interviews in various sectors of agriculture:

Horticulture:

Small Entrepreneur: Marina Cheishvili (Grower)

Location: Kvitiri village, Tskaltubo municipality

Age: 63

Date of Interview: 03/04/2023

Average Entrepreneur: Zurab Janelidze

Location: Tskaltubo city

Age: 55

Date of Interview: 05/04/2023

Large Entrepreneur: Dimitri Bankanashvili (Livestock Breeder)

Location: Sirnaghi municipality

Age: 31

Interview Form: Telephone

Date of Interview: 04/07/2023

Livestock Sector:

Small Entrepreneur: Jay Mamashlisi (Breeder)

Location: Gumati village, Tskaltubo municipality
Age: 43
Date of Interview: 04/05/2023
Average Entrepreneur: Emiko Koghuashvili
Location: Village Ofshkvit, Tskaltubo municipality
Age: 56
Date of Interview: 03/05/2023

Large Entrepreneur: Mamuka Tsilosani ("Doran" Farm)
Location: Akhmet municipality
Interview Form: Telephone
Age: 60
Date of Interview: 10/04/2023
Poultry Sector:

Small Entrepreneur: Ani Khvadagiani (Poultry Farmer)
Location: Village Nagarevi, Terjoli Municipality
Age: 29
Date of Interview: 09/04/2023

Average Entrepreneur: Valida Tsertsvadze (Poultry Farmer)
Location: Ozureghti municipality
Interview Form: Telephone
Age: 42
Date of Interview: 12/04/2023

Large Entrepreneur: Ani Vashakidze (Marketing Manager, "Chirina
Biu Biu Chicken Meat Production")
Location: Interview conducted via email questionnaire
Age: 28
Date of Interview: 11/04/2023

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Hashtag Activism and the Eco-Social Transformation of Local Production in Georgia

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Abstract

In the digital era, hashtag activism has emerged as a form of social mobilization that intertwines economic, cultural, and ecological dimensions. This study examines the hashtag #იყიდექართული (#BuyGeorgian) as a local example through which digital solidarity, agro-ecological awareness, and support for local production are formed. During the Covid-19 pandemic, the hashtag gained particular relevance as platforms such as Facebook and TikTok became digital spaces where citizens, small entrepreneurs, and organizations aligned around shared values-local products were increasingly perceived as sustainable and environmentally conscious choices.

The theoretical framework draws on Castells' theory of the network society and Bennett and Segerberg's logic of connective action, both of which help explain how individual digital practices become integrated into broader collective narratives. Methodologically, the study employs digital discourse and content analysis, alongside in-depth interviews with small entrepreneurs whose responses illuminate the ecological, economic, and marketing-related significance of local production. The research also includes a selective analysis of social media posts tagged with #იყიდექართული, identifying key patterns and tendencies of hashtag-based practices.

The study aims to analyze how #იყიდექართული has evolved into a form of digital mobilization that simultaneously strengthens the local economy, fosters ecological responsibility, and generates new modes of collective action within social media environments.

Keywords: #BuyGeorgian (#იყიდევართული), hashtag activism, local production, ecological responsibility

1. Introduction

In the contemporary world, social media has become a central tool for disseminating information, expressing protest, and enabling collective actions and mobilization. Various forms of activism on social networks frequently coalesce around hashtags, which structure information, enhance thematic visibility, and strengthen public engagement. The dynamics of hashtag activism have become especially prominent over the past decade, with movements such as #BlackLivesMatter, #MeToo, #ClimateStrike, #GreenNewDeal, and others transforming into critical platforms for digital solidarity and public visibility. These campaigns demonstrate that a hashtag is not merely a technical marker; the phrases grouped around the symbol act as discursive instruments that generate new digital publics, shape modes of mobilization, and elevate specific issues into broader societal concerns.

Hashtag campaigns also play a significant role within Georgia's social, political, and ecological landscape. Particularly notable in the local digital environment is the hashtag #იყიდევართული, which promotes the support of the local economy, advances environmental awareness, and popularizes sustainable practices. As a hashtag-driven campaign, #იყიდევართული creates an online space in which economic choice, ecological responsibility, and civic engagement converge into a shared narrative.

Studying this hashtag enables us to understand how individual patterns of consumption transform into collective social actions, how social media facilitates new models of eco-social transformation in Georgia, and how small businesses and local brands use the hashtag to communicate identity, values, and social responsibility. Within this context, #იყიდევართული extends beyond the boundaries of marketing; its analysis allows us to examine how specific forms of digital activism take shape in Georgia.

Global analogues: #buylocal, #supportsmallbusiness, #familyfarm-demonstrate a worldwide trend toward supporting local production. On Facebook alone, the hashtag #buylocal has been used roughly 8 million times. International practice clearly shows that local-production-oriented discourse is frequently linked with ecological responsibility and sustainable consumption, often accompanied by hashtags such as #ecofriendly, #plasticfree, and #sustainable. Similarly, in the Georgian context, #იყიდეცხროული transcends its marketing origins and adopts a narrative aligned with eco-friendly responsibility.

In Georgia, a systemic, data-driven analysis of this process is virtually non-existent. Research that examines not only the economic but also the ecological narratives is particularly scarce. Consequently, this study fills an existing academic gap, providing an opportunity to understand how consumer attitudes and the practices of small entrepreneurs are changing within the digital space.

2. Theoretical Framework / Literature Review

Manuel Castells (2012) emphasizes that in today's network society, information and communication technologies-including social media and hashtags-generate new opportunities for collective action and enhanced civic engagement. According to Castells, hashtag-based communication not only raises awareness and unites public interests in virtual environments but also creates possibilities for tangible social change. This is particularly relevant for local eco-social initiatives, which often operate with limited resources and small activist groups seeking meaningful social impact in environmental protection and community development. Castells argues that hashtag activism does not remain confined to online spaces; it initiates dialogue, strengthens public participation, and supports the formation of collective thinking (Castells, 2012, pp. 223-225).

Bennett and Segerberg (2012, p. 50) contend that digital networks enable a new logic of connective action, wherein individual behaviors are woven into shared cultural narratives, producing forms of digital solidarity. In this process, hashtags serve as key mediating nodes that

not only bring individuals together but also create platforms for coordinated action.

Diani (2003, pp. 45-48) argues that social movements frequently operate through networks wherein individuals and groups are linked by shared goals and values. Such structures allow for effective information exchange, resource sharing, and mobilization of collective action. For eco-social initiatives with limited resources, these networked configurations are especially valuable, enabling the dissemination of information and the amplification of participation.

Earl and Kimport (2011, pp. 15-20) highlight that digital media facilitates organizational processes and participant engagement within social movements, particularly in resource-constrained contexts. Online platforms allow activists to process information rapidly, design campaigns, and mobilize participants for offline events.

Theocharis and Valenzuela (2015, pp. 1180-1185) emphasize that hashtags function as symbols that bring together individuals around shared interests and problems, increasing public engagement in local social and ecological initiatives. The authors argue that digital solidarity strengthens connections not only online but also within community-level changes.

Bonilla and Rosa (2015, pp. 742-745) underscore that hashtag activism generates digital arenas where communities articulate viewpoints and interests in an organized manner, reinforcing collective thinking and broadening the support base for ecological and social initiatives. Dion (2018, pp. 102-106) similarly notes that digital platforms contribute to the dissemination of innovative and sustainable practices and empower small activist groups seeking wider community involvement.

Zeynep Tufekci (2017, pp. 39-44) provides a detailed account of how social media transforms the dynamics of collective action, offering opportunities that were once available only to large, resource-rich movements. Digital platforms, she argues, enable “coordination without formal organization,” granting visibility and mobilization capacity even to small groups. Hashtags play a pivotal role in this dynamic: they serve as narrative anchors, generate rapidly spreading

“public attention surfaces,” and facilitate collective focus around specific issues. Her analysis is particularly relevant for eco-social campaigns, where hashtags often represent the primary mechanism enabling small groups to exert influence at both local and national levels.

Loader and Mercea (2011, pp. 758-763) conceptualize social media as a new civic space in which online interactions evolve into practices of civic engagement. According to the authors, hashtags create temporary, interconnected social spaces where individuals with diverse perspectives and experiences unite around shared topics. Such spaces strengthen initiatives focused on ecological responsibility, local economic development, and social awareness—even when they operate with minimal resources. Hashtag campaigns thus function as “digital civic laboratories,” transforming issues into platforms for collective action.

This research therefore relies on the theoretical contributions of Castells’ network society, Bennett and Segerberg’s logic of connective action, Diani’s networked social movement model, and Earl and Kimport’s framework of digitally mediated mobilization—all of which collectively explain how hashtags are utilized to advance civic participation and collective engagement.

Note: The literature review incorporates AI-assisted text generation; however, all cited sources have been independently verified and are included in the bibliography.

2.1 The Emergence and Evolution of the #BuyGeorgian Campaign

Years ago, “Buy Georgian” functioned as an offline economic campaign implemented by both state institutions and private-sector actors. Its primary goal was to support local producers, strengthen Georgia’s economy, and reduce dependence on imports. The campaign periodically appeared at international exhibitions, agricultural and small business forums, and local markets. It was not intended to raise ecological awareness; rather, it operated primarily as a slogan-based initiative aimed at promoting Georgian products.

2.2 Hashtag-Based Mobilization and the Formation of the Online Space

With the steady growth of social media users in Georgia, the “Buy Georgian” initiative underwent a gradual transformation, shifting entirely into the online environment and eventually becoming established as the hashtag #იყიდევართული (#BuyGeorgian). In an effort to enhance information dissemination, foster solidarity, and raise awareness, the hashtag continues to be widely used by small and medium-sized businesses, handmade product creators, farmers, and agro-startup entrepreneurs.

In recent years, #იყიდევართული has undergone thematic expansion. During the Covid-19 pandemic, it transformed into a campaign aimed at helping small producers survive the crisis. During this period, several related hashtags emerged alongside it, including: #ქართულიპროდუქტი (#GeorgianProduct); #ანარმომეკართული (#ProduceGeorgian); #დამზადებულიასაქართველოში (#MadeInGeorgia); #ქართულიადაკარგია (#GeorgiansValuable); #zerowastegeorgia (same meaning in English); #ეკომეგობრული (#EcoFriendly); #ფერმერისპატრიოტია (#TheFarmerIsAPatriot)

These complementary hashtags reinforce the campaign’s core message and emphasize themes such as the promotion of sustainable local initiatives and the strengthening of civic solidarity.

3. Methodology

This study employs digital discourse analysis and content analysis to examine how eco-social and economic awareness is shaped and developed through hashtag-based communication. This methodological approach enables the investigation of not only what users express in posts, videos, or images tagged with #იყიდევართული, but also how they interpret and frame the hashtag itself.

Two social media platforms: Facebook and TikTok-were selected for analysis within the context of the campaign. Content was examined

using purposive sampling, meaning only materials directly related to the promotion of local production and actively employing #იციდევართული were included. Each post is treated as an element of digital discourse that reflects public attitudes and forms of mobilization. For Facebook, the study covers 2020-2024, while for TikTok, engagement is examined between 2021-2025.

The second stage involves conducting in-depth interviews with small farmers, local producers, NGO representatives working on the issue, and activists participating in #იციდევართული or related initiatives. The aim is to explore how these actors understand the eco-social significance of the campaign and how they perceive the hashtag's influence on the local economy and environmental consciousness.

3.1 Research Aim and Objectives

The aim of the research is to examine how #იციდევართული functions as a tool of digital mobilization that contributes to strengthening local production, ecological sustainability, and economic self-awareness.

Research Objectives:

- To analyze the discourse and thematic dynamics surrounding the use of #იციდევართული on social media.
- To determine how this discourse intersects with ecological issues and the rising awareness of sustainable consumption.
- To identify how different stakeholder groups perceive #იციდევართული and evaluate the significance they attribute to the campaign.
- To assess how the digital campaign has evolved into a social movement and identify the factors driving its social and economic impact.
- To analyze the role of social media and hashtag-based campaigns in promoting eco-oriented worldviews in Georgia.

4. Empirical Analysis

4.1 Selection of Platforms and Description of Materials

Within the scope of the study, 200 units of digital content were selected using a purposeful sampling strategy. The dataset included 120 Facebook posts/photos and 80 TikTok videos, all of which contained the hashtag #იყიდექართული (#BuyGeorgian) or its related variations. This volume is sufficient for identifying hashtag narratives, thematic lines, and user behavior trends. In addition, the hashtag #იყიდექართული frequently co-occurred with environmentally oriented hashtags such as: #ბიოპროდუქტი (#BioProduct), #ეკომეგობრული (#EcoFriendly), and #მდგრადიპროდუქტი (#SustainableProduct). This indicates a growing public interest not only in locally produced goods but also in environmentally responsible consumption. Consequently, the empirical analysis examined these hashtags alongside #იყიდექართული.

Table 1. Thematic Classification of Hashtags

The classification of posts was based on a multi-coding analytical approach. Each post (photo or video) could contain several thematic codes, resulting in a total number of coded instances that exceeds the number of posts.

Category	Description	Facebook/ 120 limit	TikTok /80limit
Local production #იყიდექართული	The focus is placed on Georgian production	120	80
Eco-friendly/ Bioproduct	The focus is on product's environmental friendliness	75	57
Marketing/advertisement	Promotions/ Branding	110	75
Cultured/traditional elements	The focus is on traditional and handmade items	56	33
Social values	Support for local businesses	73	22

The quantitative differences between categories primarily stem from the sampling strategy. Accordingly, the higher numbers observed on Facebook reflect the size of the sample rather than a direct indicator of platform-level communicative activity. Nonetheless, comparative analysis across thematic categories revealed several dominant trends: support for local production, eco-friendly practices and marketing-oriented content. Furthermore, Facebook demonstrated a stronger presence of cultural-traditional and social value-related themes, aligned with the platform’s discursive characteristics and the audience’s preference for more text-based, value-laden communication. In contrast, such themes were less prevalent on TikTok, consistent with its visual and fast-paced content format.

Table 2. Frequency and Overlap of Key Hashtags

Hashtag	Facebook	TikTok	Total count
#იყიდექართული (#BuyGeorgian)	120	80	200
#ქართულიადაკარგია (#Georgianisgood)	92	54	146
#madeinGeorgia	78	44	122
#გააძლიერეშენიქვეყნისეკონომიკა (#supportyourNationalEconomy)	57	13	70
#ქართულიბრენდი (#Georgianbrand)	47	56	103
#ხელნაკეთი (#handmade)	33	25	58
#ბიოპროდუქტი (#BioProduct)	48	35	83
#ეკომეგობრული (#EcoFriendly)	56	39	95

Observations across Facebook and TikTok indicate that hashtags associated with Georgian-made products-particularly

#იციდექართული, along with other local-production tags-demonstrate high levels of activity.

Table 3. User Engagement (Interaction Metrics)

To assess user engagement, 40 posts were selected from each key thematic category (20 from Facebook and 20 from TikTok). The sampling was conducted randomly, and average interaction indicators were calculated.

Category	Like Facebook	Like Tik Tok	Comment Facebook	Com ment Tik Tok	Share Facebook	Share TikTok
Local Production	490	510	380	430	230	90
Eco Friendly	480	445	365	310	195	60
Marketing	475	675	375	460	245	75
Cultured/ traditional elements	260	135	190	370	110	45
Social values	245	140	210	120	135	30

The empirical data reveal that: For Georgian Facebook users, posts relating to local production and eco-friendly products are particularly engaging. These posts receive high levels of likes and shares, indicating strong user resonance. Marketing-oriented content demonstrated significant influence across both platforms -supported by the number of comments, which shows that users not only react (via likes) but also express opinions, interests, and evaluations in the comment sections. On TikTok, comment counts were somewhat lower. however, the number of likes was comparatively high, reflecting platform-specific behavioral patterns. Overall, the thematic structure of hashtag activism reflects intertwined interests in local production,

marketing communication, and eco-friendly practices. This underscores the importance of strategically curated and thematically coherent content in social media environments, where user engagement is closely tied to the relevance and framing of digital narratives.

4.2 Analysis of In-Depth Interviews

The second stage of the research involved conducting in-depth interviews with small entrepreneurs, representatives of non-governmental organizations working on relevant issues, and consumers who, within the context of hashtag activism around *#აიციღებართული* (*#BuyGeorgian*), prefer local and eco-friendly products. The interviews aimed to understand how producers and environmental organizations interpret the social significance of *#აიციღებართული* and how they link it to ecological responsibility and sustainable practices. The interviews were semi-structured, and the data were analyzed using thematic analysis.

4.2.1 Perceptions of Local Production and Social Values

Respondent 1 - Small Entrepreneur

The respondent operates a small enterprise specializing in mushroom production, using high-quality, locally sourced raw materials. He notes that he relies on unique mushroom and mycelium varieties.

“My main motivation is that it’s a Georgian product, and Georgian products need support. We should replace imported goods with Georgian alternatives.”

Respondent 2 - Small Entrepreneur

According to the participant, the value of Georgian production is rooted not only in identity but also in eco-friendly and responsibly executed practices. She avoids using materials harmful to human health and produces decorative candles exclusively from natural raw materials. This approach, in her view, strengthens consumer trust and reinforces the perception that local production is linked to social responsibility and environmental values.

“Yes, I am Georgian-I make and create Georgian products, and I want everyone to recognize and know my work.”

Respondent 3 - Consumer

The respondent states that she frequently chooses Georgian handmade products, especially when selecting gifts for foreign friends. She explains that this choice simultaneously supports small Georgian producers and demonstrates to foreigners that Georgia can offer products that meet European standards.

4.2.2 Ecological Responsibility and Sustainable Practices

Respondent 3 - Consumer

This participant prefers eco-friendly brands and chooses products that do not cause additional environmental harm. She emphasizes that her purchases should not contribute to further ecological pressure in an already polluted environment.

Respondent 4 - Small Entrepreneur

A representative of a social enterprise explains that since the establishment of their business, they have refrained from using single-use plastic items, opting instead for products made from wood or cardboard. Their goal is to minimize waste and promote eco-friendly consumption habits. In recent years, the enterprise has incorporated a stronger social responsibility component by involving children in environmental awareness activities. Through this initiative, children collect plastic bottles and deliver them to the enterprise, simultaneously learning environmentally responsible behavior and participating in community engagement.

“For us, ecological responsibility is not just a marketing strategy-it’s a core value we established from day one.”

Respondent 5 - NGO Representative, CENN

The representative of CENN notes that the organization supports sustainable development through various programs, including assistance for eco-entrepreneurs, awareness campaigns, and grant

projects. Eco-friendly production and the promotion of local products are viewed as essential pathways for building a green economy.

Respondent 6 - Georgian Farmers' Association

According to the representative, eco-friendly and sustainable practices require significant investment-in capital, operational expenses, and employee training. These investments are often not reflected in sales unless producers obtain proper certification and access appropriate markets.

4.2.3 Assessing the Effectiveness of Hashtag Practices

Respondent 1 - Small Entrepreneur

The participant explains that using hashtags on social media increases product visibility and consumer interest. He adds that user engagement and feedback during hashtag campaigns serve as motivation for small producers.

Respondent 4 - Small Entrepreneur

The representative of the social enterprise notes a substantial increase in hashtag use within their organization in recent years. Social media hashtag activism contributes to audience engagement, particularly during periods of intense ecological campaigning.

“Hashtag usage increases every year because it’s no longer just marketing- it’s an expression of our enterprise’s social responsibility.”

Respondent 5 - NGO Representative, CENN

According to the respondent, hashtags on social media are often used to cluster information within specific topics and make it easier to locate. She emphasizes that the assumption that Georgian-made products are automatically eco-friendly is not always accurate and requires monitoring from responsible organizations. CENN promotes only those enterprises that demonstrably meet environmental and social standards, helping reduce the risk of greenwashing.

Respondent 6 - Georgian Farmers' Association

The respondent explains that the organization has run multiple online campaigns over its 13-year history, including one of its earliest and most far-reaching initiatives, #ფერმერისპატრიოტი (#TheFarmerIsAPatriot). The campaign aimed to highlight the importance of farmers and replace outdated terminology with a more respectful one. He emphasizes that hashtags increase campaign visibility and connect participants, but content quality remains crucial—materials must be clear, accessible, and visually appealing.

“Based on our many projects, we’ve seen that a farmer may not have an email address, but they almost always have a Facebook account. That’s why we use Facebook and hashtags actively in our campaigns. In today’s world, online campaigning increases visibility and makes it easier to reach diverse audiences.”

Summary of Interview Findings The interviews show that for small entrepreneurs, local production is not merely an economic activity but is strongly tied to cultural and social values. Participants highlight that their products, made from natural materials, embody Georgian identity-enhancing consumer perceptions of authenticity, quality, and local significance. Respondents also emphasize their commitment to ecological and sustainable practices, which in turn strengthens consumer trust and support. Regarding hashtag practices, participants state that hashtags increase user engagement and interest. However, the data indicate that hashtags must be used responsibly to avoid generating misleading associations. CENN, for example, promotes only those enterprises that meet confirmed environmental and social standards, reducing the risk of greenwashing. The findings further show that social media plays an important role in shaping environmental strategies and policy processes in Georgia. For many entrepreneurs, hashtags provide faster and more effective communication with citizens, though limited internet access in certain regions constrains these opportunities. As one respondent explains: “Data from social media can be just as important as information gathered through other means when designing environmental strategies and policies. Social media, due to its widespread use, is a valuable tool for both communication and data

collection. However, in many regions of Georgia, internet access remains limited, so inclusive and participatory engagement must also rely on offline strategies -including direct communication and public meetings.”

5. Conclusion

The research demonstrates that in the Georgian context, hashtags play an active role in promoting local products. Based on the ongoing #იყიდექართული campaign, it is evident that consumer awareness in Georgia is gradually increasing, and accordingly, the social responsibilities of small producers have evolved.

Analysis of Facebook and TikTok content revealed several dominant trends: promotion of local production remains the leading category; marketing-oriented content continues to play a significant role; environmental and sustainability narratives are becoming increasingly prominent, particularly within eco-friendly production. These transformations were reinforced by the in-depth interviews. Entrepreneurs use hashtags not only to boost sales but also as a communication tool for social responsibility, ecological values, and sustainable production. Environmental responsibility has become part of product identity, and consumers actively seek such attributes.

However, the findings also highlight the need for stronger labeling standards and greater support mechanisms for small producers and farmers. Empirical insights align with Manuel Castells’ theoretical framework, which conceptualizes modern networked societies as creators of “meaning-driven public spaces,” where economic, political, and cultural narratives merge with digital practices. Similarly, #იყიდექართული has become a networked movement in the digital sphere, integrating economic interests with environmental values.

6. Recommendations

For Small Entrepreneurs

- It is recommended to continue using #იყიდექართული and related hashtags to promote local products. When applicable, highlight hashtags such as #ეკომეგობრული (#EcoFriendly) and

#ბიოპროდუქტი (#BioProduct), provided the products genuinely meet these standards.

For the NGO Sector and Government Institutions

- Develop additional programs that increase public engagement and strengthen awareness of eco-friendly practices.
- Offer financial and legislative support for small and medium-sized entrepreneurs and farmers.
- Prioritize full nationwide internet accessibility to enable farmers to use social media platforms effectively for communication and market visibility.

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Note on Translation: Portions of this work were translated with the assistance of AI to ensure clarity and academic accuracy.

Appendix A. In-Depth Interviews

Respondent 1 - Small Entrepreneur

Question: As a small entrepreneur, how would you describe your business, and what makes your product unique in the Georgian market?

Answer: My product is made from Georgian raw materials, using unique mushroom and mycelium varieties. I believe the product's quality meets international standards.

Question: How often do you use the hashtag #იყიდევართული (#BuyGeorgian), and what motivated you to start using it?

Answer: I do not use hashtags daily, but I use them to promote my products, mainly on Facebook. I believe Georgian products need support, and imported goods should be replaced with local alternatives. Therefore, it is important to maximize the use of social media, including hashtags.

Question: Do you associate your products with supporting local production, ecological responsibility, or sustainable practices?

Answer: Yes, I do.

Question: What advice would you give to small entrepreneurs starting out who want to use hashtags to promote their brand or product?

Answer: First and foremost, I recommend that small and medium entrepreneurs create a high-quality product. Only then should they focus on social media and hashtags, because low-quality products diminish interest in Georgian goods and harm the reputation of other local producers.

Respondent 2 - Small Entrepreneur

Question: As a small entrepreneur or brand, how would you describe your business, and what makes your product unique in the Georgian market?

Answer: I produce handmade, scented decorative candles. The uniqueness of my products lies in the fact that they stand out not only in the Georgian market but also internationally. I personally oversee the quality and every detail, working manually and without competition.

Question: How often do you use #იყიდევართული (#BuyGeorgian), and what motivated you to start using it?

Answer: I use #იყიდევართული quite often. For me, using this hashtag on social media is a way to affirm that, yes, I am Georgian, I create this product, and I want everyone to know about it.

Question: In your observation, how has using hashtags affected consumer engagement, interest, or sales?

Answer: Using the hashtag on social media positively impacts visibility, and consumer interest has generally increased.

Question: Do you associate your products with supporting local production, ecological responsibility, or sustainable practices?

Answer: Yes, I associate my products with ecological responsibility because I work with natural raw materials, avoid substances harmful to health, and monitor these aspects as much as possible.

Respondent 3 - Consumer

Question: What types of products do you purchase most frequently when choosing between local and foreign options?

Answer: I always try to choose Georgian, handmade products, especially when giving gifts to my foreign friends. This supports small Georgian producers and demonstrates to my friends that Georgia produces goods that meet European standards.

Question: What is your main criterion when making a choice? (e.g. quality, eco-friendliness, brand)

Answer: The most important criterion for me is product quality. I consistently prioritize eco-friendly brands and try to ensure that my purchases do not add further stress to an already heavily polluted environment.

Question: How accessible do you think eco-friendly, locally made products are in Georgia?

Answer: In recent years, demand for eco-friendly products has increased significantly, and Georgian entrepreneurship has responded quickly. Eco-friendly Georgian products are quite accessible to people across various financial capacities and tastes.

Respondent 4 - Small Entrepreneur (Social Enterprise, Café “Mziuri”)

Question: Do you associate your products with ecological responsibility or sustainable practices?

Answer: At our social enterprise, our products are linked to sustainability and ecological responsibility. Since our establishment, we have avoided single-use plastic items, opting for wood- and cardboard-based products. We strive to make our products as eco-friendly as the Georgian market allows.

Question: How frequently do you use hashtags associated with sustainability or eco-friendliness on social media?

Answer: We frequently use these hashtags, and audience engagement grows year by year. This is not just marketing; it represents our social responsibility. This year, we added a component focusing on children -encouraging them to collect plastic bottles and bring them to our social enterprise.

Question: How engaged are consumers with Café “Mziuri’s” initiatives, and do these initiatives raise public awareness?

Answer: Our social enterprise has been active for ten years, and there have been noticeable changes in public behavior. Initially, we collected paper and plastic, but people often disposed of other waste in the plastic containers. Now, attitudes have changed: large quantities of plastic bottles are collected and properly delivered.

Question: How often should institutions and small entrepreneurs engage in eco-friendly initiatives, and what impact could this have?

Answer: Everyone must take responsibility for environmental protection. We all live in the same environment, and supporting sustainability and Georgian products is crucial. Isolated efforts are insufficient; it is important that both small and large businesses actively participate in sustainable development.

Respondent 5 - NGO Representative, CENN

Question: How would you define CENN’s role in supporting local, eco-friendly products and promoting sustainable development?

Answer: CENN promotes sustainable development in the South Caucasus through various programs. We work on climate change, environmental protection, energy efficiency, agriculture, rural development, and youth education. Our projects contribute to the economic, social, and green growth of individual regions, cities, and communities. Regarding eco-friendly and local product support, CENN strengthens local entrepreneurs through informational campaigns, grant programs, and other initiatives.

Question: What role does social media play in encouraging environmental civic engagement?

Answer: In Georgia, social media is a primary source of information for a large part of the population. Therefore, these platforms provide an effective way to reach the right audience. CENN actively uses social media to engage citizens on environmental issues through online campaigns, competitions, and other interactive activities. Our target audience often includes young people, whose interest and motivation spread widely.

Question: How do you assess the trend of #იყიდექართული (#BuyGeorgian) being associated with environmental hashtags such as #ბიოპროდუქტი (#BioProduct) or #ეკომეგობრული (#EcoFriendly)?

Answer: Hashtags are often used to cluster information under specific topics for easier discovery. However, equating Georgian-made products automatically with eco-friendly standards is ambiguous. While raising awareness of eco-friendly products is positive, attention must be paid to whether the product truly meets eco-friendly standards. Incorrect associations may lead to misconceptions that local production automatically implies bio or eco-certified products. Organizations like CENN promote only enterprises that demonstrably comply with environmental and social requirements, minimizing greenwashing risks.

Question: How important are social media data-based studies for planning environmental policies and strategies?

Answer: Data from social media can be as significant as information gathered through other means for developing environmental strategies and policies. Social media, due to its widespread use, is a valuable tool for disseminating information and collecting data. However, many regions in Georgia still lack full internet access, so inclusive and participatory engagement requires additional strategies, including direct communication and public meetings.

Respondent 6 - Georgian Farmers' Association

Question: How would you define the Association's role in supporting local production, agro-business, and sustainable development?

Answer: The Georgian Farmers' Association supports farmers and entrepreneurs by providing knowledge through formal and informal courses and sharing practical experience. We believe knowledge and modern approaches are crucial in agriculture. Beyond training, key components include agronomic services, food safety standards, and grant programs.

Question: What challenges do small and medium farmers face when adopting eco-friendly or sustainable practices?

Answer: Eco-friendly and sustainable practices require investments in capital, operational costs, and staff training. These investments are often not reflected in sales unless certification is obtained and products can be marketed appropriately. Financing these investments is a major barrier.

Question: How do social media, hashtags, and online campaigns contribute to promoting local products and increasing consumer engagement?

Answer: Over 13 years, the Association has conducted numerous online campaigns. One of our first major campaigns, #ფერმერისპატრიოტი (#TheFarmerIsAPatriot), covered the entire country. Its goal was to highlight the importance of farmers and replace the term "peasant" with "farmer." The hashtag increases visibility and connects campaign participants. However, content quality is crucial - messages must be clear and visually appealing. For instance, a recent campaign video reached nearly 10,000 views on an Instagram page with 700 followers, without paid promotion. Our experience also shows that while a farmer may not have email, they are almost always registered on Facebook, so we actively use Facebook for online campaigns.

**Coverage of Environmental and Agricultural Issues on the
Public Broadcaster's Radio Platform
(Radio Ajara – the Program “Eco World” and Georgian
Radio – the Program “Farmer's Morning”)**

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Abstract

The present paper examines the specific features of the coverage of environmental and agricultural issues in the radio broadcast of Georgian public broadcasters (“Georgian Radio” and “Radio Ajara”).

The research was conducted using quantitative and qualitative content analysis, as well as a semi-systematic literature review methodology. It provides a detailed analysis of environmental and agricultural radio programs aired in 2025, namely “Eco World” (“Radio Ajara”) and “Farmer's Morning” (“Georgian Radio”).

It is noteworthy that in contemporary media, agricultural and environmental journalism extends beyond the mere function of information dissemination and assumes significant social and educational responsibility, particularly in Georgia, where the agricultural sector makes an important contribution to improving the country's economic condition.

The literature review revealed that radio coverage of the aforementioned fields has been virtually unexplored in the Georgian academic space, which determines the relevance and scientific novelty of the present study.

The analysis of the empirical field demonstrates that the program “Eco World” is primarily focused on issues of environmental policy and climate change and serves to raise public awareness; however, in terms of content, it is often limited to descriptive accounts of events.

As for “Farmer’s Morning”, it integrates pragmatic, practice-oriented topics with academic knowledge and the experience of field experts.

In order to maximize the use of the radio format for the coverage of agricultural topics, the article presents a number of recommendations, the implementation of which will significantly contribute to the development of the field.

Keywords: *Public Broadcaster; Radio; Ecology; Agriculture; Georgia.*

Introduction

In the contemporary communication network, the media is not perceived solely as a medium for transmitting dry facts. It bears a far greater responsibility when addressing issues such as those related to the agricultural domain.

Climate change, the depletion of natural resources, air and water pollution, and biodiversity conservation constitute an incomplete list of challenges that affect citizens’ everyday lives.

Accordingly, for media outlets, the coverage of environmental and agricultural issues represents not only a guarantee of informational diversity but also a matter of social, economic, and cultural responsibility.

There is an expectation that a representative of traditional media, such as radio, plays a significant role in the process of informed decision-making across various domains. Its effectiveness is manifested in several aspects: timeliness; regular communication; accessibility; and inclusiveness.

With regard to the principles for selecting the objects of study, it is important in this section to highlight the obligations outlined in the broadcaster’s program priorities for 2022–2025:

- **Universal access:** ensuring quantitative growth in the number of users of all platforms and products of the broadcaster, both in combined indicators (television, **radio**, and multimedia channels) and separately, in the audience figures of the First Channel;
- **Timely and comprehensive informing of the audience** about **significant events** taking place in **Georgia**, its **regions**, and the world;
- Production and enhancement of the quality of educational, cultural, cognitive, and socio-political content (Georgian Public Broadcaster, 2025).

In addition, according to the National Statistics Office of Georgia, as of the beginning of 2025, **38.5% of the population** resides in rural areas (National Statistics Office of Georgia, 2025, p. 20). According to the report, agriculture, forestry, and fishing accounted for **6.2%** of GDP in 2024.

The presented data further reinforce the view that agricultural journalism constitutes one of the important directions of the contemporary media landscape. It should not be limited to superficial information but should encompass well-considered, in-depth knowledge, research, and analysis of a sector that is a priority for the country's economy and sustainable development.

Media outlets, including radio, should ensure the dissemination of verified and constructive materials within this vitally important communication network. Comprehensive information and knowledge-based decision-making, in turn, will contribute to the proper development of the sector.

Moreover, it is important that, at the level of each medium of mass communication, it be recognized that overcoming contemporary challenges depends on providing the segment employed in the agricultural sector with qualified, reliable, and comprehensive information.

Research Methodology and Methods

Taking into account the specificity of the empirical field, the study required the integration of such methods as quantitative and qualitative content analysis, as well as a semi-systematic literature review.

If we follow the classical definition of the content analysis method, it represents a technique for drawing relevant conclusions through the systematic and objective interpretation of media material (Prasad, 2008). Its sequential nature allows for the generalization of results obtained through data processing.

In order to share relevant findings, the research period was limited to the full year of 2025. In total, 36 episodes of “Farmer’s Morning” and 14 episodes of “Eco World” were examined. For this purpose, the websites of the research objects were consulted, where the radio programs broadcast within the specified time frame were made available.

It should be noted that, in the research process, content analysis ensures the examination of content according to predefined categories, which reduces the researcher’s subjective interference and increases the reliability of the results and the relevance of the conclusions.

The aforementioned method makes it possible to analyze the narrative in a systematic and structured manner, to identify thematic priorities and emphases, as well as the specific features of agricultural topic coverage.

The primary guarantee of the obtained results lies precisely in the criteria that were predefined for the analysis of each program:

- **Thematic and functional categories;**
- **Forms and genres of information delivery;**
- **Narrative structure;**
- **Modes and means of expression.**

In addition to qualitative analysis, the study also includes quantitative indicators of content analysis, specifically the frequency with which the

radio programs were broadcast. The presented statistical data indicate the intensity of agricultural issue coverage on radio.

As for the second research method, the **semi - systematic literature review** ensures the identification and integration of noteworthy findings by other researchers into the present paper, as well as the optimization of existing knowledge and directions for further advancement.

Within the framework of this method, the program priorities of the Public Broadcaster were examined in detail, which also allows for drawing certain conclusions in this regard.

The methods presented in the paper are organically integrated and provide a basis for a multifaceted examination of the issue.

Review of Scientific Literature

A review of Georgian academic sources has shown that the coverage of agricultural issues, particularly within the radio space, practically has not become an independent subject of research yet. Existing materials mainly focus on the general functions of the media, the role of the public broadcaster, and the importance of the agricultural sector.

The representation of agricultural issues in the media and the general norms for covering each direction of the sector are addressed in the book “**Constructive Agricultural Journalism.**” The discussion of specific fields and the presentation of the particularities of media coverage in each chapter of the handbook turn the narrative into a useful guide for journalists.

“The agricultural sector has consistently played a significant role in Georgia’s economy, which is directly linked to the more than 3,500 villages that still exist today as historically formed territorial units, where nearly half of the country’s population resides and whose agricultural production has a substantial impact on maintaining the minimum living conditions of a large segment of the population” (Kuprashvili & Chalaganidze, 2018, p. 19).

Considering these factors, it becomes evident that the coverage of agriculture across various media platforms is of particular importance,

taking into account public interest, audience size, the specificity of the sector, and its potential.

Each chapter of the guidebook represents a kind of compendium of rules addressing the fundamentals of agronomy, plant protection, livestock and animal husbandry, market dynamics, safety, and, in general, the significance of constructive journalism in the process of covering these fields.

The book constitutes an important initial theoretical and methodological basis for further research. The main directions of agriculture and the professional standards for their coverage presented in the handbook make it possible to define the framework required for the study. At the same time, the thematic diversity presented - from the fundamentals of agronomy to market dynamics - creates a solid theoretical foundation for content analysis, which is a prerequisite for the systematic study of radio coverage of agricultural issues, the formulation of relevant conclusions, and the development of recommendations.

The importance and pathways of agricultural communication for informing farmers and introducing innovations in the sector are reviewed by Irma Choladze in the article **“Agro-communication’s Forms and Ways - Georgia’s Example”** (Choladze, 2019). As explained in the paper, in the Georgian context, the main challenge remains the fragmented and non-systematic nature of communication. According to the author, effective agricultural communication requires the combination of traditional and digital methods, increased farmer engagement, and the integration of local experience. Such collaboration enhances knowledge around the sector, the potential for introducing innovations, and the productivity of the agricultural sector.

The provision of fact-based, timely, and comprehensive information to representatives of the agricultural sector often serves as a guarantee for making correct decisions. As noted by the authors Natia Kuprashvili and Nino Chalaganidze in the article **“New Normality of Agriculture Against the Background of Infodemia (Georgian Example),”** the example of small and medium-sized farmers in Georgia demonstrates that the effectiveness of information delivery directly determines

productivity and correct market positioning (Kuprashvili & Chalaganidze, 2022).

Agricultural communication should integrate traditional and digital channels in order to deliver timely, accurate, and useful information to farmers effectively.

In the international academic space, studies published on agro-journalism and agro-communication are mostly focused on professional and ethical standards and, in general, on the importance and prospects of the field.

From this perspective, the study by Edith Anne Chenault (2009), **“Factors Affecting Agricultural Journalists and Agricultural Communicators,”** offers different approaches, as it discusses not only the issues mentioned above but also other factors influencing journalistic activity.

The principles formulated in this work are important for the study of the representation of agricultural issues on radio. As with other media outlets, editorial policy and technical resources are often not the sole factors provoking narrative formation or issue emphasis. As the study shows, professional identity and values are, to some extent, reflected in the coverage of environmental and agricultural issues.

This factor is even more relevant in countries where agriculture plays a significant role in the development of the local sustainable economy. In such cases, the journalist becomes not only a disseminator of information but also a catalyst for constructive discussion, analysis, and, in some instances, the search for solutions around the issue (Chenault, 2009).

The role of the media in processes of social change is examined by Linje Manyozo (2012) in the work **“Media, Communication and Development: Three Approaches.”** Among other directions, this study highlights the targeted and inclusive perspective of the radio segment. The author identifies several approaches, including (Media for Development).

The study reveals the role of media outlets in the process of achieving specific goals aimed at healthcare, education, and environmental protection. Also important is the argument presented that media cannot achieve sustainable outcomes without taking into account local needs, as well as cultural and social contexts (Manyozo, 2012).

The impact of agricultural issue coverage and communication on farmers' decision-making, and the role of the media in shaping a safe environment, are the core theses analyzed and explored in the work by Jim Evans and Scott Heiberger, **“Agricultural Media Coverage of Farm Safety: Review of the Literature.”** The authors' review integrates perspectives on how local traditional and online media contribute to the dissemination of safety standards, risks, and preventive materials (Evans & Heiberger, 2016). The study emphasizes that the media is not only a source of information but also an active communication instrument - a resource that influences both individual and collective decisions in the agricultural sector.

It should also be noted that the study of processes and trends in the coverage of agricultural issues should include research on traditional broadcast media outlets that remain relevant alongside digital media. Especially given the specificity of the topic, the subject of study is complex and combines professional standards with diverse approaches to agro-communication, sector-specific narratives, and contemporary trends that are dynamic and evolving.

Discussion and Results

“Eco World”

“Eco World” is a radio program of the Adjara Public Broadcaster, aired every Monday at 13:10 on FM 104 and 5. The program is hosted by a field specialist, meteorologist Koba Partenadze. Alongside journalistic materials, the program includes educational content and discussions, thereby creating a complex model for the representation of environmental issues.

Each program examined during the research period covered the following topics: meteorological assessment of climate, hazardous waste management, remediation of areas contaminated with arsenic

- containing waste, the Red Book - its significance and positive aspects, reduction of the risk of climate change - induced disasters in Georgia, the process of stocking rivers with fry, illegal harvesting/sale and regulation of boxwood, the ecological situation in the country, Georgian forests and their unique characteristics, the European Union for the environment - water resources and environmental data, adaptation to and mitigation of adverse climate change, improvement and progress in medium-term weather forecasting, the climatological assessment of the summer of 2025, reduction of marine plastic pollution in Georgia, International Forestry Day and International Black Sea Day, and the issue of establishing protected areas in Svaneti and Lechkhumi.

The analysis of each episode demonstrates that the program focuses on the multidimensional aspects of environmental problems and also conveys a social message. For example, the topic of the June 30 episode was “**Adaptation to Adverse Climate Change and Its Mitigation.**” The project is being implemented by Georgia together with 22 countries, with the support of the Government of Japan, within the framework of the United Nations Development Programme. Karlo Amirgulashvili, Head of the Biodiversity and Forestry Department of the Ministry of Environmental Protection and Agriculture, spoke via telephone connection about the project’s global significance, future prospects, and its impacts on the local agricultural sector and ecology.

The episode aired on April 11, 2025, titled “**Do Not Cut Boxwood! – Illegal Harvesting/Sale of Boxwood Is Punishable,**” also carries a strong social message. The program was broadcast several days before the Boxwood Sunday holiday, and its main conceptual axis was the protection of Colchic boxwood, the prevention of illegal cutting of the plant, and discussion of responsibility toward an endemic species. The episode began with a monologue by the host, Koba Partenadze, who also spoke about caring for boxwood in domestic conditions. Preventive measures and the general situation were reviewed by the invited guest, Giorgi Khabeishvili, Head of the Forest Care and Restoration Department of the National Forestry Agency.

During the research period, the programs were devoted to issues of protected area management, biodiversity conservation, and threats

caused by anthropogenic impact. Particular attention was paid to the Black Sea ecosystem, the dynamics of plastic pollution, and the challenges of marine environmental sustainability. In addition, issues of environmental governance and policy were integrated, including waste management strategies, directions of national policy, and the assessment of the effectiveness of institutional mechanisms in relation to ecology.

“Eco World” also performs an educational function to a certain extent. It contributes to raising public awareness and environmental responsibility. Coverage of international environmental days and campaigns serves as a clear example of this role.

Nevertheless, the program largely remains limited to the description of events. The lack of constructive coverage may be explained by the following factors:

- The program’s duration (8 - 16 minutes.) does not allow for an extensive discussion around a specific topic.
- The majority of invited guests are public officials. The lack of opinions from independent experts and representatives of the agricultural sector results in a deficit of balanced and substantive discussion.

A logical continuation of the content and narrative analysis is the examination of the program’s format. The broadcast begins with a jingle which, through musical background and a verbal message, predetermines the thematic direction of the program. After the phrase **“Ecology and related problems, us and the environment,”** the host presents the topic of the day. Following the monologue, an audio passage is integrated into the program, which, through certain musical and verbal components, ensures the on-air identity of the broadcast. After introducing the invited guest, the host proceeds to questions related to the topic.

It should also be noted that in some cases, during telephone connections, speaking from a different location does not create a sense of presence. Consequently, the guest’s speech is sometimes difficult for the audience to follow. At the end of the program, the host summarizes the topic of the day, after which the jingle (music and

slogan) concludes the broadcast. Such an audio passage indicates the structural coherence and cyclical nature of the program.

“Farmer’s Morning”

The program “Farmer’s Morning” is a radio product of the Georgian Public Broadcaster (1TV), which airs regularly every Saturday on Georgian Radio’s morning broadcast on FM 102.4, starting at 10:00. The program is hosted by journalist Irakli Nijaradze.

The functional purpose of the program is the popularization of agricultural knowledge, the sharing of practical experience, and the strengthening of the socio-economic importance of agriculture.

In terms of format, the program combines interviews with experts and farmers, thematic segments, and an informational-analytical section, which ensures a multi-layered and complex presentation of content.

As of 2025, 36 episodes of “Farmer’s Morning” are available in the program’s archive on the official website of the Georgian Public Broadcaster (1tv.ge). Analysis of their content shows that the radio program comprehensively reflects ongoing processes in the agricultural sector, including technological, social, and environmental dimensions.

Particular emphasis is placed on so-called sensor systems, modern models of agrotechnical practices, and smart technologies.

Within the thematic structure, a significant place is devoted to the segment “Farmer Stories,” which focuses on human narratives and examples of successful agricultural practices.

The systematic participation of sector experts and scientists, coverage of modern methods of disease control, promotion of local varieties, and educational and training initiatives transform the program into a platform that ensures the transfer of information between academic knowledge and the everyday practical needs of farmers.

The October 18 broadcast was dedicated to a newly identified disease in hazelnut cultivation and methods for its management. The program’s guest, Zurab Khidesheli, Head of the Integrated Plant

Protection Research Department at the Agricultural Scientific-Research Center, spoke about the recent trend of rapid hazelnut decline, its causes, and preventive measures. During the live broadcast, he discussed systemic measures about which farmer awareness is essential.

In the second part of the program, the guest of the “Farmer Stories” segment was winemaker and viticulturist Akaki Burkiashvili. He personally introduced the audience to the history and future prospects of his winemaking activities.

It should be noted that by covering the successful positioning of Georgian agricultural products beyond the country’s borders, the program also highlights the international potential of locally produced goods.

The first part of the September 13 episode of “Farmer’s Morning” was devoted to interest in Georgian cheese in the Czech Republic and the growing popularity of Georgian khachapuri in Europe. Together with the invited guest, cheese history researcher Ana Mikadze, the host Irakli Nijaradze discussed the growing interest in Georgian dairy products. In the second part, within the “Agro Advice” segment, the host shared practical information for viticulturists regarding the optimal sugar content percentage at which grapes should be harvested.

The program’s architectonics are as follows: the duration of “Farmer’s Morning” ranges from 22 to 30 minutes and is divided into two blocks. Each episode begins with a jingle that, through a musical background and a verbal message, informs the audience of the program’s start. The jingle is followed by a greeting from the host, Irakli Nijaradze, and the presentation of the topic.

After a brief monologue, a musical audio passage titled “Agro Georgia” is introduced, signaling the beginning of the guest segment.

Following an in-depth interview on the topic of the day, another musical jingle announces the start of a new segment.

The episode concludes with a farewell text by Irakli Nijaradze and a final musical jingle, which articulates the essence, significance, thematic focus, and periodicity of the program.

The host is characterized by in-depth knowledge of the core topics and professional competence, which fosters logical reasoning around the subject matter. His position is balanced and allows respondents to fully articulate their views.

The research shows that the radio program “Farmer’s Morning” is a content-wise coherent and structurally organized media product that effectively fulfills the function of popularizing agricultural knowledge and disseminating practical information.

Conclusion and Recommendations

Based on our research, it can be stated that the coverage of environmental and agricultural issues in the radio broadcasts of the Georgian Public Broadcasters is structurally well-established, yet characterized by differing content-related approaches.

According to the analysis, “Eco World” is primarily focused on current environmental issues and serves to raise public awareness in this regard. The program plays an important role in promoting state policy and international initiatives; however, in most cases, the information presented is descriptive in nature and lacks analytical reflection, specifically in terms of in-depth problem analysis, alternative perspectives, and practical solutions.

As for the Georgian Radio morning program “Farmer’s Morning,” it offers listeners significantly more complex and practice-oriented content, integrating academic knowledge, expert opinions from the sector, and farmers’ experiences.

The program’s narrative is constructive. Discussions of problems are often accompanied by recommendations, which also gives the program an educational function.

Based on the findings, the following recommendations were developed for the program “Eco World”:

- **It is recommended to integrate analytical elements into the program, so that the broadcast is devoted not only to the presentation of facts but also to their in-depth discussion;**
- **Alongside the participation of public officials, the involvement of independent experts and representatives of the academic community is desirable, as this would significantly improve the quality of discussion;**
- **Program planning should be based on research into the interests of the relevant segments of the audience.**

As a result of the analysis of the program “Farmer’s Morning,” the following recommendations were identified:

- **Since the program does not include visual elements, and considering its duration, it is advisable to diversify the audio design to avoid monotony;**
- **The main part of the program is devoted to studio discussion. It is recommended to integrate various journalistic genres, including reportage and podcasts.**

Overall, the research demonstrates that both programs play an important role in the process of informing the public; however, to increase their effectiveness, further content-related and format-based development is necessary.

The integration of greater analytical depth, diverse genres, and different professional perspectives will contribute to better alignment of the programs with the needs of their target audiences.

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**Integration of Artificial Intelligence (AI) in Agricultural
Journalism:
The Case of *Agrogaremo TV* Facebook Reels**

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Abstract

Introduction

In the digital era, media organizations are undergoing profound technological transformation, with artificial intelligence (AI) emerging as one of the most influential drivers of change in journalism. Automation, algorithmic content production, and generative systems are no longer experimental tools but increasingly integrated components of newsroom workflows. As research indicates (Lewis & Westlund, 2015; Pavlik, 2023), AI does not merely optimize production processes; it reshapes journalistic formats, storytelling practices, and audience engagement models.

The integration of AI becomes particularly significant in niche and specialized fields of journalism, where subject-matter expertise, visual demonstration, and educational clarity are essential. Agricultural journalism represents one such domain. Unlike general news reporting, agri-journalism serves a targeted audience—farmers, agricultural professionals, rural communities, and students—who require precise, practical, and visually accessible information. The quality and accessibility of agricultural information directly influence awareness, adoption of innovations, environmental practices, and rural economic resilience.

In countries where agricultural sectors continue to face infrastructural limitations and technological gaps, the role of media as a knowledge intermediary becomes even more critical. In Georgia, where agriculture remains a strategic economic sector, media coverage of farming practices, livestock management, and sustainable production plays a significant role in shaping public understanding and professional behavior (Kuprashvili & Chalaganidze, 2018). However, limited newsroom resources and technical constraints often hinder the production of visually rich and educational agricultural content.

In this context, AI-assisted content production represents not merely technological innovation but a structural opportunity for expanding access to knowledge. Generative AI tools enable the rapid creation of audiovisual material, automated subtitles, synthesized voiceovers, and realistic visual simulations. These affordances are particularly relevant in agricultural journalism, where field filming may be logistically challenging, seasonal, or resource-intensive.

The case of *Agrogaremo TV* offers a pioneering example within the Georgian media landscape. The platform is among the first in the country to systematically integrate generative AI tools in the production of educational agricultural content, including video lessons, recommendations, and short-form audiovisual materials distributed through Facebook Reels. Between September 10 and November 10, 2025, the channel produced 45 short-form videos fully or partially generated using AI technologies. This period marks the beginning of consistent AI-assisted content production in the platform's workflow.

This study aims to examine how AI integration transforms agricultural journalism practices through the case of *Agrogaremo TV*'s Facebook Reels. Specifically, it analyzes the thematic structure, narrative design, visual composition, and audience engagement patterns of AI-generated content. In addition, the study addresses ethical considerations related to transparency, authenticity perception, and audience trust.

By exploring both content characteristics and user responses, the research contributes to broader discussions about automation in journalism, digital trust formation, and the evolving relationship

between technological systems and professional media practice. The Georgian case offers valuable insight into how small, specialized media teams can leverage AI to scale educational production while navigating ethical and professional boundaries.

Literature Review

The integration of artificial intelligence into journalism has evolved from experimental automation to structural newsroom transformation. Early research on algorithmic journalism focused primarily on automated news writing and data-driven reporting (Lewis & Westlund, 2015). Subsequent scholarship expanded the discussion to include generative systems, audience personalization, and newsroom workflow reconfiguration (Pavlik, 2023).

Brennen, Howard, and Nielsen (2020) argue that AI technologies are not simply efficiency tools but reconfigure professional roles, editorial decision-making, and production hierarchies. Automation increasingly supports routine content generation, enabling journalists to redirect attention toward analytical and interpretative tasks. However, this transformation also raises concerns regarding transparency, accountability, and the potential erosion of editorial autonomy.

Recent literature emphasizes that AI functions most effectively in hybrid models, where technological systems augment rather than replace human expertise (Pavlik, 2023). This hybridization is particularly relevant in specialized journalism sectors that require contextual knowledge and ethical oversight.

While much research has focused on political and breaking news contexts, less attention has been paid to AI integration in niche journalism. Specialized domains—such as science, health, environmental, and agricultural reporting—depend heavily on explanatory clarity, visual representation, and educational framing.

Agricultural journalism occupies a distinct position within this landscape. It combines informational, educational, and developmental communication functions. According to Kuprashvili and Chalaganidze (2018), constructive agricultural journalism aims not only to inform but also to enhance farmers' awareness, practical competencies, and

adaptive capacity. This aligns with broader communication-for-development frameworks, where media serve as intermediaries between knowledge systems and local practice.

In this context, AI-generated audiovisual tools offer unique affordances. Visual simulations of animals, crops, or farming processes can enhance comprehension where physical filming is constrained by geography, seasonality, or cost. Thus, automation may expand accessibility rather than merely accelerate production.

A central concern in AI-mediated journalism is audience perception of authenticity. Research indicates that audiences often struggle to distinguish between human-produced and AI-generated content (Brennen et al., 2020). This ambiguity may generate what can be described as “digital trust”—a form of credibility granted to visually persuasive content regardless of its ontological status.

However, transparency remains a critical ethical principle. Disclosure of AI usage aligns with journalistic norms of accountability and informed consent. Studies suggest that transparency may mitigate ethical concerns while maintaining audience engagement (Pavlik, 2023).

The phenomenon becomes particularly relevant in short-form video formats such as social media reels, where rapid consumption and visually compelling imagery shape audience perception. The use of generative animal visuals in agricultural content introduces additional ethical complexity: while the informational text may be accurate, the visual simulation may be interpreted as documentary evidence.

The rise of short-form video formats (e.g., Facebook Reels, Instagram Reels, TikTok) has transformed audience engagement patterns. Research in digital journalism indicates that short videos rely on rapid narrative structure, visual immediacy, and emotionally resonant imagery to capture attention (Pavlik, 2023).

These platform affordances encourage standardized production styles, concise scripting, and strong visual hooks. For agricultural journalism, this format may simultaneously increase reach and

simplify complex agronomic processes. The tension between simplification and accuracy becomes a central analytical concern.

Research Gap

Although global scholarship has extensively examined AI in newsroom automation and political reporting, there remains limited empirical research on AI integration within agricultural journalism, particularly in small media ecosystems such as Georgia.

Furthermore, few studies have explored how AI-generated visual simulations affect audience perception in specialized educational contexts. The case of *Agrogaremo TV* provides an opportunity to address this gap by examining:

- Thematic patterns in AI-generated agricultural content
- Narrative and visual structures of short-form videos
- Audience reactions and authenticity perception
- Ethical implications of generative media in development-oriented journalism

By situating this case within broader debates on automation, hybrid journalism, and digital trust, this study contributes to emerging scholarship on AI-driven transformation in specialized media sectors.

Methodology

This study employs a qualitative case study design combined with quantitative content indicators to examine the integration of artificial intelligence (AI) in agricultural journalism through the example of *Agrogaremo TV*'s Facebook Reels.

The research follows a mixed qualitative–quantitative approach. The primary method is content analysis, supplemented by audience reaction analysis and semi-structured expert interviews with representatives of the channel.

The case study focuses on a defined production period—from September 10 to November 10, 2025—marking the beginning of systematic AI-assisted content creation by *Agrogaremo TV*. During

this period, 45 Facebook Reels videos were published that were either fully or partially generated using AI tools.

This time-bound sampling ensures methodological consistency and allows for focused analysis of early-stage AI integration practices.

The dataset includes:

- 45 Facebook Reels videos
- Associated video captions and subtitles
- Audience comments and reaction metrics (likes, shares, engagement patterns)
- Interview data from channel representatives

All videos were publicly accessible via the platform's Facebook page at the time of analysis. Engagement data were collected directly from the platform interface.

In addition, semi-structured interviews were conducted with channel representatives to clarify:

- Which generative AI tools were used
- How text generation, voice synthesis, visual production, and editing were structured
- The degree of human editorial intervention
- Ethical considerations and transparency practices

The analysis was conducted in three stages.

Stage 1: Thematic Coding

All 45 videos were coded into six primary thematic categories:

1. Livestock (including calves, rabbits, pigs, buffaloes)
2. Beekeeping
3. Crop production / Horticulture
4. Fruits and Vegetables
5. Wild medicinal plants
6. Specialized agricultural culture (e.g., Georgian silk production)

Each video was assigned one primary thematic code and, where applicable, a secondary code to account for thematic overlap.

This classification allowed for comparative analysis of thematic distribution and identification of dominant content areas.

Stage 2: Structural and Narrative Analysis

The second stage involved structural analysis of video characteristics, including:

- Video duration
- Internal narrative structure
- Script segmentation
- Voiceover type (male/female synthesized voice)
- Subtitle format and consistency
- Visual composition (fully AI-generated vs. partially real footage)

Particular attention was paid to the sequencing of information, clarity of practical recommendations, and overall narrative coherence. This stage aimed to assess how AI tools shaped storytelling conventions within the short-form format.

Stage 3: Audience Reaction Analysis

The third stage examined audience engagement and perception patterns through:

- Comment analysis
- Emotional tone of responses
- Indicators of authenticity perception
- Instances where users interpreted AI-generated visuals as real documentary footage

All comments within the defined timeframe were reviewed and categorized according to thematic clusters:

- Positive evaluation
- Practical inquiry (e.g., price, location, breed details)
- Requests for additional content

- Authenticity misperception
- Technical critique

This qualitative comment analysis enabled the study to assess audience trust formation and potential ethical implications.

The study integrates:

- Qualitative content analysis
- Descriptive quantitative indicators (video count per theme, engagement tendencies)
- Thematic audience interpretation analysis
- Institutional insight from expert interviews

Rather than measuring advertising performance or algorithmic reach metrics, the research focuses on structural characteristics of AI-assisted journalism and its perceived authenticity within a specialized media ecosystem.

Since the analyzed content was publicly available, no private data were accessed. However, audience comments were anonymized in reporting to ensure ethical compliance.

The study also critically reflects on transparency practices in AI-generated journalism, particularly regarding disclosure of generative visual content.

Several limitations should be acknowledged:

- The study covers a two-month production window, representing early-stage implementation.
- Engagement metrics were observed descriptively rather than through platform analytics access.
- Audience perception was inferred from comment analysis rather than direct surveys.

Despite these constraints, the dataset provides sufficient depth to identify structural patterns in AI-assisted agricultural journalism.

Findings

The analysis of 45 AI-assisted Facebook Reels published by *Agrogaremo TV* between September 10 and November 10, 2025 reveals distinct thematic, structural, and audience engagement patterns. The findings are presented in four analytical dimensions: thematic distribution, narrative and stylistic structure, audience engagement dynamics, and authenticity perception.

The thematic coding of all 45 videos demonstrates a clear dominance of livestock-related content. This category accounts for the largest proportion of videos within the analyzed period.

Livestock-themed videos—including calves, rabbits, piglets, and buffaloes—constitute the most frequent category. These videos are characterized by highly visual AI-generated animal simulations, often presented in farm-like settings. The prominence of this category suggests that visually dynamic animal imagery plays a central role in content strategy.

A smaller but consistent portion of the dataset (approximately 4–5 videos) focused on beekeeping. These videos typically addressed hive structure, disease prevention, and honey extraction practices. Compared to livestock content, beekeeping videos emphasized instructional clarity over visual spectacle.

A moderate number of videos addressed crop cultivation topics, including tomatoes, potatoes, and lemons. These videos followed a more explanatory narrative format, focusing on planting techniques, disease management, and yield optimization.

Three to four videos emphasized the qualities, cultivation practices, and benefits of specific fruits and vegetables. These were generally less visually dramatic but maintained practical informational value.

Five to six videos focused on wild medicinal plants such as oregano and bay leaf. These videos often incorporated environmental awareness messaging, including ethical harvesting and sustainability considerations.

One or two videos addressed niche agricultural topics, such as Georgian silk production. These videos served more educational and cultural purposes than practical farming instruction.

Overall, the dominance of livestock content suggests that AI-generated animal visuals function as a primary engagement driver within the short-form format.

Across categories, AI-generated videos demonstrate a highly standardized structural pattern:

1. Short topic introduction
2. Brief explanatory segment
3. Practical recommendation or instruction
4. Concluding summary statement

Most videos do not exceed 90 seconds, aligning with optimal engagement duration for Facebook Reels. The voiceover is synthesized—using both male and female AI-generated voices—with a stable, neutral tone. Subtitles are automatically generated in Georgian script and maintain stylistic consistency across videos.

The visual composition is uniform, creating a coherent brand identity. Fully AI-generated imagery dominates livestock videos, while plant-focused content occasionally blends illustrative visuals with explanatory narration.

This structural uniformity suggests that AI tools facilitate not only production efficiency but also stylistic standardization.

Audience analysis reveals a significant pattern: videos featuring AI-generated animal imagery receive comparatively higher engagement levels than other thematic categories.

Although the videos were not promoted or boosted through paid advertising, livestock videos achieved strong organic interaction. Comments frequently included:

- Praise for the “farmer”
- Inquiries about location and price
- Requests for breed information

- Expressions of admiration for farm conditions

For example, typical comments included: “Great farmer, very well maintained.” “Where is this farm located?” “How much does this breed cost?”

Such responses indicate that viewers often interpret AI-generated scenarios as real documentary footage.

In contrast, crop-related videos generated more informational questions but fewer emotional reactions.

One of the most significant findings concerns audience perception of authenticity. Despite transparent labeling in titles indicating the use of AI, many viewers did not recognize the generated nature of the visuals.

In multiple cases, users directed praise toward non-existent farmers or treated simulated animal imagery as documentary representation. This pattern suggests the emergence of what may be described as “digital trust”—credibility granted to visually persuasive content regardless of its generative origin.

While informational accuracy within scripts appears professionally grounded, visual realism occasionally includes exaggerated proportions or idealized farm environments. This creates a tension between informational reliability and visual simulation.

The findings highlight a key ethical dimension: AI-generated visuals, even when transparently labeled, may still be perceived as authentic by audiences.

Interviews with channel representatives confirm that multiple generative tools are combined in production, including:

- Text generators
- Video generators
- Voice synthesis systems
- Subtitle automation tools

However, editorial review, script refinement, and final montage remain human-led processes. This indicates a hybrid production model in which AI augments journalistic labor rather than replacing it.

The study identifies four central patterns:

1. Livestock-themed AI visuals drive the highest engagement.
2. AI enables standardized, efficient, short-form educational production.
3. Audiences frequently interpret AI-generated visuals as real.
4. Hybrid production preserves human editorial control while leveraging automation.

These findings demonstrate that AI integration within agricultural journalism not only transforms production processes but also reshapes audience perception and engagement dynamics.

The integration of generative artificial intelligence into agricultural journalism introduces complex ethical considerations that extend beyond technical efficiency or audience engagement metrics. While AI-assisted production expands access to educational content and reduces resource constraints, it simultaneously raises questions regarding transparency, authenticity, accountability, and audience perception.

One of the foundational ethical principles in journalism is transparency. In the case of *Agrogaremo TV*, AI-generated content is labeled in video titles, indicating the use of artificial intelligence. This practice aligns with emerging standards in AI-assisted journalism, which emphasize disclosure as a mechanism of accountability (Brennen et al., 2020).

However, findings from audience comment analysis suggest that labeling alone may not guarantee informed perception. Despite explicit references to AI, many viewers interpreted generated visuals as real documentary footage. This reveals a discrepancy between formal transparency and effective audience comprehension.

The ethical challenge, therefore, extends beyond disclosure to communicative clarity: How explicit must labeling be to ensure that audiences understand the ontological status of content?

Agricultural journalism traditionally relies on documentary credibility—real farms, real animals, real production processes. The use of AI-generated livestock imagery complicates this foundation.

Although textual information and practical recommendations may remain accurate, simulated visuals sometimes present idealized or exaggerated representations. In some cases, animal proportions or environmental conditions appear hyper-realistic rather than documentary. When audiences interpret these images as factual representations, a form of “perceived documentary realism” emerges.

This raises a critical ethical question: If informational content is correct but visual representation is simulated, does this compromise journalistic integrity?

The study does not identify intentional deception. However, it highlights the necessity of clearer visual signaling mechanisms—such as watermarking or explicit on-screen disclosure—to prevent misinterpretation.

The findings indicate the emergence of digital trust: audiences extend credibility to visually persuasive AI-generated content even when it is synthetic. This trust may enhance educational effectiveness but also introduces vulnerability.

In agricultural contexts, where farmers rely on accurate representation for decision-making, the distinction between illustrative simulation and documentary evidence becomes ethically significant. Misinterpretation could potentially influence purchasing decisions, breed selection, or farm investment planning.

Therefore, AI integration must be accompanied by strengthened media literacy efforts, particularly in rural communities.

Interviews with channel representatives confirm that AI tools are used in combination with human editorial oversight. Script drafting, fact-checking, thematic selection, and final editing remain journalist-led

processes. This hybrid model reflects what Pavlik (2023) describes as augmentation rather than automation-driven displacement.

Ethically, this distinction is crucial. When AI supports production efficiency while preserving human accountability, journalistic standards remain intact. However, unchecked automation could risk reducing critical editorial judgment.

Thus, the ethical viability of AI in agricultural journalism depends on maintaining human responsibility at key decision-making stages.

The uniform structure of AI-generated Reels contributes to brand consistency and efficient scaling. However, excessive standardization may limit narrative diversity and contextual nuance.

Agricultural practices are highly localized, influenced by regional climate, soil conditions, and cultural traditions. If AI-generated formats prioritize visual spectacle or generalized recommendations, contextual specificity may be diluted.

This suggests the need for balance between scalability and contextual adaptation.

Based on the findings, several ethical safeguards are recommended:

1. Clearer on-screen disclosure of AI-generated visuals.
2. Distinguishing between illustrative simulation and documentary footage.
3. Continued human editorial oversight at all stages.
4. Integration of media literacy messaging within AI-produced content.
5. Periodic content auditing to assess representational accuracy.

The case of *Agrogaremo TV* demonstrates that AI can enhance agricultural journalism without necessarily undermining professional integrity. However, ethical responsibility increases in proportion to technological capability.

Generative AI does not eliminate journalistic ethics; it intensifies the need for their conscious application. In specialized fields such as

agricultural journalism—where informational consequences may affect livelihoods—the balance between innovation and responsibility becomes particularly significant.

Conclusion

This study examined the integration of artificial intelligence in agricultural journalism through the case of *Agrogaremo TV*'s Facebook Reels, analyzing 45 AI-assisted videos produced over a two-month period. The findings demonstrate that generative AI is not merely a technical enhancement tool but a transformative force reshaping production practices, narrative structures, and audience engagement within specialized journalism.

The thematic analysis revealed a strong dominance of livestock-related content, particularly videos featuring AI-generated animal simulations. These visually dynamic formats generated the highest levels of organic engagement, suggesting that generative imagery plays a significant role in capturing audience attention in short-form digital environments.

Structurally, AI facilitated standardized, efficient, and scalable content production. Videos followed a consistent narrative formula—concise introduction, practical explanation, and clear conclusion—optimized for platform-specific consumption. This uniformity contributed to brand coherence and production sustainability, particularly for small media teams with limited resources.

At the same time, the study identified a critical tension between visual simulation and perceived authenticity. Audience comment analysis revealed that many viewers interpreted AI-generated visuals as documentary representations of real farms and animals. This phenomenon highlights the emergence of digital trust, where visual realism overrides ontological awareness of synthetic production.

Ethically, the findings suggest that AI integration in agricultural journalism is viable when embedded within a hybrid production model that preserves human editorial oversight. In the case examined, AI augmented journalistic labor rather than replacing it. Script

development, content verification, and final editorial decisions remained human-driven processes.

The study contributes to emerging scholarship on AI in journalism by addressing a gap in research on specialized, development-oriented media sectors. While much literature focuses on automation in political or breaking news contexts, this case demonstrates how generative AI can support educational and sector-specific journalism in small media ecosystems.

Importantly, AI integration appears to expand knowledge accessibility within agricultural communication. By enabling the rapid creation of visually compelling and instructional content, AI lowers production barriers and broadens dissemination potential. In countries where agricultural information infrastructure remains uneven, this represents a meaningful structural opportunity.

However, innovation must be accompanied by ethical clarity. Clear disclosure mechanisms, strengthened media literacy, and continued human accountability are essential to ensure that technological advancement does not undermine professional integrity.

Ultimately, the case of *Agrogaremo TV* illustrates that AI is neither a threat nor a replacement for journalism. Rather, it represents a powerful tool whose impact depends on how responsibly and strategically it is integrated. In the evolving landscape of agricultural journalism, generative AI may serve as a catalyst for scalability, accessibility, and pedagogical innovation—provided that ethical considerations remain central to its application.

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Sericulture and Environmental Sustainability: Media as a Circular Development Model from 19th-Century Cooperative Practice to Contemporary Rural Revival in Georgia

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Introduction

Sericulture in Georgia has historically followed a cyclical trajectory marked by rise, decline, revival, and transformation. Once a cornerstone of rural economic life and cultural identity, silk production nearly disappeared at the end of the nineteenth century, was artificially revived during the Soviet industrial period, and again declined in the 1990s following systemic political and economic disruption. Yet, the repeated re-emergence of sericulture suggests that local knowledge, community networks, and cultural memory possess a durability that outlives political regimes.

In the twenty-first century, sericulture is reappearing in Georgia not as a centrally orchestrated state program, but as a grassroots initiative emerging from rural communities. Particularly notable is the case of women silk growers in Akhmeta, whose efforts combine local experience, academic consultation, municipal engagement, and media visibility. This contemporary development invites a historical comparison: the cooperative model established in the nineteenth century by Nestor Tsereteli and the current revival promoted through AgroNews and Agrogaremo TV appear to rest on similar foundational principles—knowledge dissemination, collective organization, and public communication.

This study examines these two historical moments comparatively to explore how agricultural production, education, and media function as an integrated ecosystem. It asks whether media can operate not merely as a reporting mechanism, but as an infrastructural component of sustainable rural development.

The nineteenth-century cooperative movement led by Nestor Tsereteli represented more than an economic association. It embodied a circular development model in which agricultural production generated income, income financed education and local institutions, and education strengthened production quality and market competitiveness. Knowledge, cooperation, and communication formed a self-reinforcing cycle.

In contrast, contemporary sericulture revival in Akhmeta reflects both continuity and disruption. While the principles of cooperation, knowledge acquisition, and community mobilization persist, the financial circularity between production and knowledge infrastructure appears weakened. Media today amplifies rural voices and facilitates visibility, yet it is rarely financially sustained by the agricultural sector it promotes.

By comparing the nineteenth-century cooperative framework with the twenty-first-century revival movement, this paper investigates how media can function as a sustainability mechanism within rural economic ecosystems. It situates sericulture not only as an agricultural practice but as a case study in circular development, gendered rural entrepreneurship, and media-supported resilience.

Through historical analysis and contemporary case study examination, the research seeks to answer a central question: Can the integration of production, knowledge, and media—once organically connected—be reconstructed as a sustainable model in modern Georgia?

Theoretical Framework

This study integrates three interrelated theoretical perspectives: circular economy theory, development communication, and media sustainability. Together, these frameworks provide a conceptual lens

for understanding sericulture not merely as an agricultural activity, but as an ecosystem linking production, knowledge, and communication.

Circular economy theory emphasizes regenerative systems in which production, consumption, and knowledge circulate within a closed-loop structure, minimizing waste and maximizing value creation (Geissdoerfer et al., 2017). Unlike linear economic models—extract, produce, dispose—the circular model promotes reinvestment of resources into social and productive infrastructure.

Historically, nineteenth-century Georgian sericulture cooperatives operated within a proto-circular structure. Agricultural production generated income; income supported educational institutions and local associations; education improved production techniques and market competitiveness. Although not formally conceptualized as “circular economy” at the time, this cooperative structure aligns with contemporary sustainability frameworks.

In rural economies, circularity extends beyond material flows to knowledge flows. Knowledge dissemination, skills training, and collective organization become mechanisms for resilience. Thus, circularity in this study is understood both economically and epistemically.

Development communication theory positions media as a facilitator of social transformation rather than a neutral transmitter of information (Servaes, 2008). In participatory models, communication strengthens local capacity, fosters community organization, and enables informed decision-making.

In the nineteenth-century cooperative model, printed materials, public lectures, and institutional networks served as communication infrastructures. In contemporary Georgia, digital media platforms such as AgroNews and Agrogaremo TV perform analogous functions—disseminating agricultural knowledge, amplifying rural initiatives, and connecting producers with wider audiences.

From a development communication perspective, media functions as a mediator between local production and broader institutional recognition. It enhances visibility, legitimizes grassroots initiatives,

and contributes to the formation of what may be described as communicative capital.

Media sustainability scholarship emphasizes the structural conditions that enable media systems to function as stable social institutions (Couldry & Hepp, 2017). Beyond financial viability, sustainability involves institutional integration within social ecosystems.

In the historical cooperative case, media and education were financially embedded within the production cycle. Contemporary rural media, however, often operates externally to agricultural production, relying on project-based funding or advertising models disconnected from farming output.

This structural disconnection creates what may be termed a “broken circularity”: knowledge circulates, visibility increases, but economic reinvestment into media infrastructure remains limited.

Contemporary sericulture revival in Akhmeta also intersects with gender and rural entrepreneurship theory. Women-led agricultural initiatives often emerge as adaptive responses to economic marginalization and labor market constraints (Agarwal, 2010). Collective organization among women producers can enhance bargaining power, knowledge sharing, and community resilience.

In this framework, media exposure contributes to social recognition and symbolic empowerment, while cooperative structures contribute to economic agency.

The study conceptualizes sericulture as a triadic system:

Production ↔ Knowledge ↔ Media

In the nineteenth century, this system functioned as a closed loop. In the contemporary case, the loop partially operates but lacks full financial integration.

The theoretical question guiding the analysis is whether media can transition from being an external amplifier to becoming an infrastructural component of a renewed circular rural economy.

Methodology

This study employs a qualitative comparative case study design to examine the relationship between agricultural production, knowledge dissemination, and media infrastructure across two historical periods in Georgia: the nineteenth-century sericulture cooperative movement and the contemporary revival initiative in Akhmeta.

The research follows a historical-comparative analytical framework. It combines archival-historical analysis with contemporary case study examination in order to identify structural continuities and disruptions within rural development models.

The study does not aim to measure economic output quantitatively; rather, it focuses on structural and communicative dimensions of sustainability, cooperation, and knowledge circulation.

Two primary datasets were used:

1. Historical Case (19th Century):

- Archival materials and secondary historical literature on Nestor Tsereteli's cooperative model
- Documentation of sericulture associations and educational institutions
- Historical accounts of cooperative structures and financing mechanisms

2. Contemporary Case (21st Century):

- Media content analysis of AgroNews and Agrogaremo TV coverage of the Akhmeta women silk growers
- Public statements and interviews with participants
- Observational documentation of institutional involvement (municipal and academic collaboration)

The contemporary analysis focuses on media narratives, visibility mechanisms, and the structural organization of women producers.

The research proceeded in three stages:

Stage 1: Structural Mapping

Each historical period was analyzed according to four structural indicators:

- Production model
- Knowledge infrastructure
- Media/communication mechanisms
- Financial circulation

This mapping allowed for direct comparison of systemic integration.

Stage 2: Circularity Assessment

Using circular economy theory as a conceptual framework (Geissdoerfer et al., 2017), both cases were evaluated in terms of:

- Economic reinvestment mechanisms
- Knowledge reintegration into production
- Institutional sustainability

The goal was to determine whether a closed-loop development model existed and to what extent it functioned.

Stage 3: Media Role Evaluation

Drawing on development communication theory (Servaes, 2008), the study examined whether media functioned as:

- Informational transmitter
- Institutional mediator
- Structural component of the production system

Particular attention was paid to whether media was financially embedded within the agricultural ecosystem or operated as an external amplifier.

Limitations

The historical case relies on archival and secondary sources, limiting access to granular economic data. The contemporary case is based primarily on media documentation and public records rather than longitudinal economic tracking.

Additionally, the two cases operate within radically different political and economic systems, which limits direct causal comparison. The study therefore emphasizes structural parallels and divergences rather than empirical equivalence.

Historical Case Analysis: The Nestor Tsereteli Cooperative Model

The nineteenth-century sericulture revival in Georgia, led by Nestor Tsereteli, represents a structurally integrated model of rural development in which agricultural production, institutional education, and communication networks functioned as mutually reinforcing components.

Following the near collapse of sericulture in the mid-nineteenth century due to disease and market disruption, Tsereteli initiated a cooperative-based recovery model grounded in collective organization. Rather than relying solely on state intervention, the model emphasized local association structures that organized producers, standardized practices, and facilitated knowledge dissemination.

The cooperative framework created a structured network of silk producers who operated not as isolated farmers but as members of an institutionalized agricultural community. This collective organization increased production reliability and market access while reducing vulnerability to systemic shocks.

A central feature of Tsereteli's model was the integration of education into the production cycle. Agricultural knowledge was not treated as external expertise but as a core infrastructural component. Training institutions, demonstration practices, and instructional materials strengthened producers' technical competence.

From a circular economy perspective (Geissdoerfer et al., 2017), this represents an early form of epistemic circularity: knowledge enhanced production efficiency; increased production generated income; income sustained institutional development.

Education in this context functioned as a productive asset rather than a separate sector. The boundaries between economic activity and knowledge generation were porous and interdependent.

Although nineteenth-century media differed fundamentally from contemporary digital platforms, communication mechanisms played an essential role. Printed materials, public lectures, and association meetings facilitated the circulation of technical knowledge and organizational cohesion.

Within the development communication framework (Servaes, 2008), these mechanisms can be interpreted as early communicative infrastructures that supported collective action. Information dissemination was not passive; it structured community mobilization and strengthened cooperative identity.

Importantly, communication was embedded within the production system. It was neither externally funded nor detached from agricultural output. Instead, it operated as a functional component of the cooperative economy.

The most significant structural characteristic of the Tsereteli model was financial reintegration. Revenue generated from silk production contributed to sustaining educational institutions and organizational structures. These institutions, in turn, improved production quality and market competitiveness.

This created a self-reinforcing loop:

Production → Income → Education & Institutional Support → Improved Production

Such integration corresponds to contemporary circular economy principles, even though the terminology did not exist at the time. The system minimized dependency on external funding and reinforced internal resilience.

While nineteenth-century cooperative structures operated within a patriarchal social context, sericulture historically relied heavily on household labor, including women's participation in silk cultivation and processing. Although formal recognition of gendered economic

agency was limited, women's labor formed a substantial part of the production infrastructure.

This dimension becomes particularly significant when contrasted with the contemporary women-led revival initiative.

The Tsereteli cooperative model can be characterized by:

- Institutionalized collective organization
- Integrated educational infrastructure
- Embedded communication mechanisms
- Financial circularity
- Relative autonomy from external funding

The historical case thus demonstrates a closed-loop rural development model in which production, knowledge, and communication were structurally interconnected.

This model provides the analytical baseline for evaluating the contemporary revival of sericulture in Akhmeta. The key question becomes whether similar structural integration can be reconstructed under current socio-economic conditions.

Contemporary Case Analysis: Women-Led Sericulture Revival in Akhmeta and Media Mediation

The contemporary revival of sericulture in Akhmeta represents a grassroots-driven rural initiative emerging within a fundamentally different socio-economic environment from that of the nineteenth century. Unlike the Tsereteli cooperative model, which developed within an integrated institutional framework, the current revival is characterized by decentralized organization, project-based support, and media-facilitated visibility.

The Akhmeta case centers on a group of women silk growers who initiated collective production efforts in response to limited rural employment opportunities and economic marginalization. Their engagement with sericulture is not merely an agricultural practice but a strategy of rural entrepreneurship and local empowerment.

In contrast to historical top-down cooperative institutionalization, the contemporary initiative operates through informal coordination, municipal collaboration, and academic consultation. The production process remains relatively small-scale and relies heavily on voluntary mobilization and shared knowledge.

This reflects a participatory development communication model (Servaes, 2008), where local actors drive initiative formation rather than external authorities imposing structural frameworks.

Unlike the nineteenth-century integrated educational infrastructure, the contemporary case relies on external expertise provided by agricultural specialists, universities, and advisory services. Knowledge circulates through workshops, consultations, and mediated coverage rather than through permanently embedded institutional training centers.

While this model ensures technical guidance, it does not yet demonstrate full systemic reintegration of knowledge financing into production output. Training activities depend partly on external institutional support rather than income generated exclusively from silk production.

Thus, epistemic circularity exists in a partial form: knowledge enhances production capacity, but production revenue does not consistently finance knowledge infrastructure.

A critical distinction between historical and contemporary cases lies in the role of media. AgroNews and Agrogaremo TV serve as central communication platforms that amplify the initiative, provide public recognition, and connect rural producers with broader audiences.

Media coverage fulfills several functions:

- Increasing public awareness of sericulture revival
- Legitimizing women-led agricultural entrepreneurship
- Attracting potential institutional or municipal attention
- Framing sericulture as environmentally sustainable and culturally significant

From a development communication perspective, media operates as a mediator between rural producers and the broader socio-economic environment.

However, media in this case functions primarily as an external amplifier rather than an embedded structural component of the production cycle. Financial flows from silk production do not directly sustain media institutions.

One of the most distinctive features of the contemporary revival is the explicit visibility of women as economic actors. Unlike the nineteenth-century context, where women's labor was structurally central but institutionally under-recognized, the Akhmeta initiative foregrounds women as leaders and organizers.

Media coverage contributes to the accumulation of symbolic capital—public recognition, narrative empowerment, and institutional legitimacy. This dimension reflects contemporary gender and rural entrepreneurship frameworks (Agarwal, 2010), in which collective organization strengthens agency and resilience.

Thus, while financial circularity remains incomplete, symbolic and communicative circularity is significantly enhanced.

Structural Comparison Indicators

When evaluated through the circular economy framework (Geissdoerfer et al., 2017), the contemporary case demonstrates:

- Active production capacity
- Externalized knowledge support
- Strong media-mediated visibility
- Weak financial reintegration into communication infrastructure

The development model remains partially open rather than fully closed-loop.

The Akhmeta case suggests the emergence of a hybrid rural sustainability model in which:

Production ↔ External Expertise ↔ Media Visibility

The structural challenge lies in transforming this mediated visibility into economically sustainable institutional support. If production output begins to systematically finance knowledge dissemination and communication channels, the model could evolve toward a renewed circular framework.

Comparative Discussion

The comparative analysis of the nineteenth-century Tsereteli cooperative model and the contemporary women-led sericulture revival in Akhmeta demonstrates both structural continuity and systemic disruption in the relationship between production, knowledge, and communication.

Across both periods, sericulture functions as more than an agricultural activity; it operates as a rural development mechanism dependent on collective organization, knowledge transfer, and public communication. However, the ways these elements are institutionally integrated differ fundamentally.

From the perspective of circular economy theory (Geissdoerfer et al., 2017), the most significant distinction between the two cases is the degree of circular integration.

In the nineteenth-century cooperative model, the system functioned as a closed loop:

Production → Income → Education & Institutional Support → Improved Production

Income generated from silk production was reinvested into education, cooperative infrastructure, and communication mechanisms, which in turn improved production quality and market capacity. This embedded reinvestment reduced dependency on external support and enhanced resilience through internal financing.

In the contemporary Akhmeta case, the model is best described as partially circular or structurally open. Production exists and knowledge transfer occurs, but financial reintegration remains limited. Expertise is frequently externalized through institutional partnerships and project-based support, while media remains an external amplifier

rather than a financially embedded component of the production ecosystem.

This produces what may be conceptualized as **broken circularity**: knowledge and visibility circulate, but economic feedback into communication infrastructure remains weak.

Development communication theory (Servaes, 2008) helps explain why communication is central in both cases. In the historical model, communication and knowledge dissemination were structurally embedded within cooperative life through association meetings, printed materials, and organized training. Communication served a functional role in sustaining the cooperative system.

In the contemporary context, communication is mediated primarily through digital media platforms such as AgroNews and Agrogaremo TV. These outlets provide visibility, legitimacy, and narrative framing, enabling rural producers—especially women—to gain public recognition and institutional attention.

However, the function of communication has shifted: instead of being embedded within the production system, it increasingly operates as an external support mechanism. This reflects broader patterns of media sustainability in modern environments, where media institutions often depend on advertising or donor funding rather than sectoral reinvestment (Couldry & Hepp, 2017).

A key implication of the comparison concerns scalability. The historical cooperative model contained a built-in scaling mechanism: as production expanded, institutional and educational capacity expanded alongside it through reinvestment.

In the contemporary case, scaling is constrained by the absence of stable circular financing. Visibility and public support can increase rapidly through media amplification, yet the material capacity to expand production and institutionalize training depends on external funding and sporadic institutional engagement.

This creates a sustainability paradox: modern media can amplify rural initiatives faster than rural economies can structurally absorb and financially sustain them.

The comparison also highlights a major gendered shift. Historically, women's labor was central to household-based sericulture but often remained institutionally invisible. In the Akhmeta revival, women are positioned not only as labor participants but as organizers and public agents.

Media plays a significant role in this transformation by producing symbolic capital and legitimizing women-led rural entrepreneurship (Agarwal, 2010). Thus, even in the absence of full economic circularity, communicative circularity contributes to empowerment and institutional recognition.

The analysis supports the conceptual model proposed in the theoretical framework:

Production ↔ Knowledge ↔ Media

In the nineteenth century, this triad formed an integrated and financially circular system.

In the contemporary case, the triad exists, but connections are uneven:

- Production and knowledge exchange are present but partially externalized.
- Media amplifies and legitimizes but is not economically embedded.

Therefore, the modern challenge is not merely reviving sericulture, but reconstructing the institutional linkages that allow production to sustain knowledge and communication infrastructures over time.

Conclusion

This study examined sericulture in Georgia through a comparative analysis of two historical moments: the nineteenth-century cooperative model led by Nestor Tsereteli and the contemporary women-led revival initiative in Akhmeta. By applying circular economy

theory, development communication frameworks, and media sustainability perspectives, the research explored how production, knowledge, and communication function as interconnected elements of rural development systems.

The historical case demonstrates a structurally integrated and financially circular model. Agricultural production generated income, income sustained educational institutions and communication mechanisms, and knowledge reinvestment enhanced production quality. This closed-loop structure minimized dependency on external actors and strengthened long-term resilience.

In contrast, the contemporary Akhmeta case reveals both continuity and fragmentation. Collective organization, knowledge exchange, and media mediation remain central components. However, financial reintegration into educational and communication infrastructures is limited. Media functions as a powerful amplifier—generating visibility, symbolic capital, and institutional recognition—but it is not yet economically embedded within the production cycle.

The comparative findings suggest that the sustainability of rural agricultural revival depends not only on production capacity but on structural integration. Circularity must extend beyond material output to include reinvestment in knowledge systems and communication platforms. Without such reintegration, rural initiatives risk remaining dependent on external funding and episodic institutional support.

At the same time, the contemporary case introduces a significant transformation: the visibility of women as rural economic leaders. Media plays a critical role in this shift by converting local initiative into public legitimacy and symbolic empowerment. Even in the absence of full financial circularity, communicative circulation strengthens social recognition and adaptive capacity.

The study contributes to scholarship on circular economy and development communication by demonstrating that media can function as rural development infrastructure. However, this infrastructural role requires economic embedding within the production system to achieve long-term sustainability.

Ultimately, the reconstruction of a resilient sericulture model in modern Georgia requires reconnecting the triadic system of production, knowledge, and media. The historical precedent suggests that such integration is possible. The contemporary challenge lies in transforming mediated visibility into structurally sustainable circularity.

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