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## THE USE AND POTENTIAL OF LOCAL RADIO FOR EXTENSION SERVICES IN THE WEST OF IRELAND

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### ABSTRACT

This article reviews and evaluates the use of agricultural radio programming in the west of Ireland and assesses the potential for expanded use of radio and podcasts by the public agricultural extension service. The article used a variety of methodologies including data from the Broadcasting Authority of Ireland, farmer surveys, focus group discussions, and key informant interviews. The findings unveiled a high level of listenership to farming programmes on Irish local radio especially among older farmers and that the impact of these programmes is mainly in creating awareness or reminding farmers about issues, deadlines or events. The study suggests that the impact of farm radio can be maximised when it is integrated into wider agricultural extension programmes and is locally relevant. The research further augments that podcasts are a useful medium for knowledge transfer especially for younger audiences because of their flexibility. Farmers preference for listening over reading advisory messages is clear. Radio and podcasts offer practical and cost-effective opportunities to enhance the effective delivery of agricultural extension advice and information. Diversified knowledge sources are critical to support active information seeking by farmers and, by re-establishing a focus on radio and podcasts, there is scope for agricultural extension services to widen their reach and impact.

**Keywords:** Farm radio, local radio, podcasts, agricultural extension, farmer decision making.

### INTRODUCTION

This paper examines the use of agricultural radio programming in the west of Ireland and assesses the potential for expanded use of radio and podcasts by the public agricultural extension service. In rural Ireland there is a strong demand for speech radio because 'country people like to talk' (Barbrook, 1992) and Ireland has the second highest level of radio listenership in the EU (Eurobarometer, 2014). It is estimated that 84% of Irish adults listen to radio daily and more than half (58%) tune in to their local radio station (BAI, 2015). In this context, we demonstrate that local radio is a potent medium that farmers actively chose to listen to on topics that interest them and that it can be used strategically in agricultural extension programming.

**Theoretical Background:** The depth and breadth of knowledge required to farm is considerable and growing

more complex; consequently, more attention is being directed by advisory services to the process of innovation and 'knowledge transfer' and understanding how to support farmers with knowledge more effectively (EU SCAR, 2012; DAFM, 2014). The role of knowledge and learning in innovation and adoption of innovation has been widely researched since the early work of Rogers (1962) and his finding that 'the adoption of innovation depends on some combination of well-established interpersonal ties and habitual exposure to mass communication'. The role of science in relation to innovation is being reconfigured and there is greater acknowledgement of the multi-player dimensions and the institutional settings that enable learning and innovation to emerge (Caraça *et al.*, 2009; Leeuwis, 2013). Farm innovation is increasingly seen as emerging from the lively interactions of multiple stakeholders rather than the traditional flow of new ideas from research to farmers as end user (Weilinga & Vrolijk, 2009). With the shifting paradigm from knowledge

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transfer to knowledge exchange and co-creation, there is less attention in extension literature to the role of traditional mass media such as radio. Digitization has opened up new possibilities and brought change in radio's role as a vehicle of mass communication with improved prospects for the dissemination of scientific work, stimulation of debate, interviews with local experts, promotion of events, etc. (Teixeira & Silva, 2011).

#### **Agricultural Extension and Communication:**

Extension has been defined as 'the conscious use of communication of information to help people form sound opinions and make good decisions' (Van der Ban & Hawkins, 1996). Leeuwis (2013) distinguishes between communications strategies and functions where a strategy is a wider intervention purpose related to the assumed nature of a problematic situation. He distinguishes 4 functions: 1) raising awareness and consciousness; 2) exploring views and issues; 3) information provision; and 4) training. Strategies and functions can be approached either instrumentally or interactively and can be implemented using a variety of methodologies, methods, tools and media. Along the continuum of the innovation decision process, Rogers (2003) outlined five critical stages from becoming aware of an innovation to being persuaded of its usefulness to the decision to adopt or not. While these are not discreet stages, awareness raising, and information provision are critical in the early stages of this process with mass media playing a crucial role whereas more personalised messages and media come to the fore as the process progresses. Hornik (2004) challenges this neat dichotomy and argues that behaviour change can be influenced by any source or no source, depending on many other factors. The need to make use of all media channels available is reiterated by Balit (2012) who posits that in some cases, using traditional channels and methods that rural people are familiar with and know how to use can provide the most effective solution to information sharing and dialogue.

**Radio as a communications medium:** Within the arsenal of extension forms, methods and media, mass media including radio have certain qualities and properties that indicate its usefulness. The qualities of radio as a medium have been described by Manyozo (2009, p1) as 'pervasive, local, extensive, flexible, available, readily understood, personal, portable, speedy, and efficient'. Radio has been taking information and

knowledge to the most remote and inhospitable places for more than one hundred years (Teixeira & Silva, 2011). Some of its limitations include the difficulty for the message sender to know who they are reaching and how the messages are understood and that radio appeals only to one of the senses (Woodward, 2012). Goodman (2016) outlines the history of how 'listening groups' in different parts of the world were used to give scattered rural populations a greater opportunity to engage in discussion of current affairs.

The Uses and Gratification (U&G) theory has been an important part of communications research back as far as the 1940s (Cantril, 1942) in seeking to understand how and why people select and use different channels of communication. Ruggiero (2000) argues that U&G theory is relevant to explaining how people rely on different channels of information for different uses and typologizing the different motivation for media use in terms of diversion, social utility, personal identity, and surveillance. U&G theory posits that information sources diversification is inherently a good concept if the audience comprises active information seekers and that, when various channels are integrated, they support and empower the individual's acquisition of knowledge and learning.

Galloway (1981) and Fry & McCain (1983) suggested that the motivation to use any mass medium is also affected by how much an individual relies on it and how well it satisfies her or his need. Dervin (1980) advocated that media planners and those conducting information campaigns should begin with the study of the potential information user and the questions that person is attempting to answer to make sense of the world. Rubin & Windahl (1986) argued that dependency on a medium or a message results when individuals either intentionally seek out information or ritualistically use specific communication media channels or messages. Rubin (1993) later points out that while media audiences are often depicted at extremes of (a) being passive and expected to be influenced by the messages portrayed, and, (b) being active and expected to make rational decisions about what media content to accept or reject, that the truth is actually somewhere in between.

**Radio and Farming Communities:** The importance of radio for rural dwellers in the USA has been highlighted by Hilliard (2009) who noted the main need for information on production factors for crops and livestock as well as warning of storms, mudslides and

excessive heat waves. Jones *et al.* (2009) argued that the radio is still an effective means of communication for rural dwellers in the U.S and that it does indeed influence decision making. They examined the messages transferred to farmers about protection from the sun and the implications for skin cancer. They found that over a 12-month period, farmers were more conscious about skin care for themselves and their families and would indeed practice sun protection and promote the concept to others if they had heard messages or warnings about sun protection over the radio.

Hagar & Haythornthwaite (2005) described the critical role of local radio in UK during the Foot and Mouth crisis in 2001. In Cumbria in the north west of England (one of the worst affected areas) the provision of information to farmers and rural dwellers in a speedy manner was a critical challenge, with farmers constrained to their farms and visitors restricted from the countryside as well as the closure of many markets, events and local farming meeting points.

Misiko & Halm (2015) posit that while diversified knowledge sources and channels can enhance agricultural growth, new information channels or sources do not function independently but rather are integrated with other sources. They utilise the Uses and Gratification theory to consider how farmers rely on different channels for different uses. When the various channels are integrated, they empower the individual in terms of both the information he or she seeks and regenerates (Reagan, 1996). The incorporation of radio into effective extension programmes is supported by Moussa *et al.* (2011) who carried out an evaluation in West Africa on adoption of triple bagging cowpea storage technology and found that reinforcement of the demonstration experience with radio broadcasts increased adoption by statistically significant estimates of 23% in Niger and 20% in Burkina Faso. They argue that an already effective extension programme can be made more effective by associated radio messages.

Sulaiman *et al.* (2012) argue that, while information and communication technologies (ICTs) act as media for dissemination of information, most ICT applications involve one-way flow of information with limited opportunities for interaction. The value of information transmitted is greatly dependent on its local relevance and whether it can be customised to the resource situation of local farmers. The concept of communications for development (C4D) is emerging as a

new academic discipline addressing these human dimension concerns that often limit the effectiveness of development programmes (Agunga, 2012).

**New opportunities from digitisation:** Digitization has opened up new possibilities and brought change in radio's role as a vehicle of mass communication with improved prospects for the dissemination of scientific work, stimulation of debate, interviews with local experts, promotion of events, etc. (Teixeira & Silva, 2011). Lindgren & McHugh (2013) argue that the genre of the radio documentary is experiencing a renaissance in Australia and America and that globalisation of radio listenership via podcasting and sharing of content on social media is beginning to change documentary towards a more first-person, explicitly narrated format. Albarran *et al.* (2007) highlighted the move away from terrestrial radio by younger audiences and their preference for new technologies like MP3 players, internet radio, and satellite radio. McClung & Johnson (2010) examined patterns of podcast use in the USA and found that the bulk of podcast users were well educated and affluent, preferring to listen to podcasts on portable devices. Also, in the USA, Kui Xie (2007) outlined four reasons for using podcasts in extension services including that they are flexible and mobile and take away the problem of missing information at events a distance away. Secondly, extension clients can build a knowledge base to refer back to in the future for specific problems. Thirdly, in some ways they improve the efficiency and accuracy of extension workers and finally podcasts are relatively simple to set up or indeed to receive. Kinsey (2010) also lists podcasts as one of the five social media tools for any extension toolbox.

Quality of production is a critical factor in radio and podcast programming and a number of organisations have developed guidelines to support extension agents in this field. Woodward (2012) highlights the importance of audio quality, story structure, message clarity and engagement.

**Case study of Farm Radio Listenership and Impact in Co. Mayo, Ireland:** In Ireland, Teagasc is the state agency for agricultural advisory, education and research services and so is the main provider of public agricultural extension services, organised on a regional basis. In one region (Mayo) in the west of Ireland, Teagasc staff have built a close relationship with a local radio station (Midwest Radio) over the past 30 years and they broadcast a daily 4-minute programme each

weekday evening at 6pm and contribute to a longer 20 minute weekly programme broadcast at 10pm on Wednesday evenings. The daily slot is a roundup of the latest farming news presented by one of the Mayo farm advisors and recorded at the local advisory office. The weekly programme deals with a variety of agricultural matters, has an anchor host from the radio station and inputs from the agricultural extension team in the county. This case study investigates the listenership of these farm programmes and their impact on farmer knowledge and practice, exploring the potential for greater use of local radio as a medium for agricultural extension.

### **MATERIALS AND METHODS**

Four different sources of data were used in this study. The first step was to examine data from the Joint National Listenership Research (JNLR) by the Broadcasting Authority of Ireland to understand the overall listenership of local radio in general and of Midwest Radio specifically. This research utilises mixed methodologies including audience estimates based on the quarterly National Household Survey and face to face interviews with selected samples of representatives of the population in each radio franchise area in a geographic and demographic context (MRBI 2014).

The second step was a short face to face survey conducted with a random sample of 127 farmers attending four different open agricultural events and demonstrations in Co. Mayo in 2014. This served to assess the extent of listenership among the general farming population in the county. The survey asked about their general radio listening habits as well as whether they listened to the specific farm programmes on Midwest Radio and what kind of topics attracted them to these programmes. This data was analysed using SPSS.

The third step was short focus group discussions with nine active farmer discussion groups in the county, comprising 150 farmers in total. These included existing sheep (1), dairy (1) and beef (7) farmer discussion groups. At the end of their regular meetings the members were asked about their listenership and their views about the farm radio programmes. The responses and discussions were recorded and transcribed. The transcriptions were then reviewed to distil the reasons for and against listening; positive and negative views on content and structure; and the influence (or not) of the programmes on decisions and behaviour. All members

were aware of the radio programmes but they varied in their listenership. The fourth and final step was a number of key informant interviews with advisory personnel involved in developing and delivering the farm programmes and with staff of the local radio station.

### **RESULTS**

#### **The listenership for agricultural radio programmes in Co Mayo:**

The Broadcasting Authority of Ireland released radio listenership figures in February 2015 for the final quarter of 2014 and the 6-6.15 PM slot on Midwest had a listenership level of 8,200 people for that particular segment (BCI, 2015). These listeners may or may not be farmers.

The listenership among the farming population was examined using a short face to face survey with 127 farmers attending four different open agricultural events and demonstrations in Co Mayo. While these farmers would be considered knowledge seekers, they are not necessarily clients of advisory services and would be representative of the regional profile of farmers. Of these 127 farmers, 87% were male and 13% female; 28% were in the age category 20-40 years, 39% in the 40-60 years' category and 33% older than 60 years. Just under half (48%) were farming full-time while 52% classified themselves as part-time farmers. The main farm enterprise types of the respondents were mixed (31%), beef sucklers (30%), sheep (19%), beef finishers (11%) and dairy (9%).

Overall radio listenership among this group was high with 84% reporting that they listen to radio daily and only 10% reporting that they rarely listen. Of the 114 regular radio listeners, their most common times of day for listening were morning (40%), and evening / drive time (26%) with 14% stating that they listen throughout the day. Respondents were asked whether they listened to the two farming programmes on Midwest Radio and Table 1 below shows that there is a high level of awareness and occasional listenership to both programmes. According to the responses dictated in Table 1, respondents were categorised as low, medium or high listeners. Low listeners included 18 respondents who never listened to either programme and 19 who reported occasionally listening to one programme. High listeners were those who listened to the daily programme at least 3 times per week and the weekly programme at least every fortnight. All others were classified as medium listeners. The relationship

between being a high, medium or low listener to farm radio and a number of factors was examined using cross tabulation and chi square tests. These factors included age, farm enterprise, and whether the respondent was full or part-time farming.

Age was found to be the only statistically significant factor with a p value of 0.000. The effect of age on listenership is shown below in Table 2. Older people are more likely to listen to farm radio than their younger counterparts.

Table 1. Number and percentage of survey respondents who listen to Farming Programmes on Midwest Radio (N=127).

Frequency of listening	Farming Scene 6.05-6.10pm Mon-Fri	Frequency of listening	Farming Matters 10-11pm Wednesday
Never	24 (19%)	Never	35 (28%)
Occasionally	56 (44%)	Occasionally	48 (38%)
Once a week	13 (10%)	Once a month	5 (4%)
3 times or more	19 (15%)	Once a fortnight	9 (7%)
Everyday	15 (12%)	Every week	29 (23%)
Total	127 (100%)	Total	126 (100%)

Table 2. The relationship between age and farm radio listenership of survey respondents (N=126).

		Farm Radio Listenership			Total
		Low	Medium	High	
20-40 years	Count	22	12	1	35
	%	63%	34%	3%	100%
40-60 years	Count	12	25	12	49
	%	24%	51.0%	25%	100%
>60 years	Count	3	21	18	42
	%	7%	50%	43%	100%
Total	Count	37	58	31	126
	%	29%	46%	25%	100.0%

N=126 because one respondent did not indicate their age category

There was no statistical significance in the relationship between listenership and farm enterprise type ( $p = 0.655$ ) or whether the respondent was farming full or part time ( $p=0.811$ ). Apart from Midwest, respondents were asked if they listened to any other farming or agricultural radio on a regular basis and 84% said they did not while a small number did listen to farming programmes on national radio stations.

During the face to face farmer survey 75% of respondents said they would like to have podcasts available of agricultural advisory shows. A podcast was defined as an online file of a previously recorded show or series and available to download. Two respondents commented during survey; "Yes, as a young farmer myself it would be better if I could have any time access to these shows rather than just specific time slots" or "yes because you can listen in your own time".

**What do Farmers currently tune in for?** The respondents were asked to select from a menu of 5 options what they currently listened to farming radio for. The options included market reports, technical

advice, up to date information on agri-schemes, event information and rural development information. Table 3 gives a breakdown of the results by age category. although not statistically significant, the findings indicate that as farmers get older they have a declining interest in technical farm advice and also a declining interest in events. For older farmers, the top area of interest is the market reports.

**What would Farmers be interested to hear on Farming Radio?** The respondents were then asked what they wanted to hear on farm radio from a menu of options including industry and market information, technical advice, environmental issues, rural development issues, interviews with local farmers and experts, and updates on events and schemes. Information on events and schemes again received the highest level of response with 72% of respondents interested in this type of information. Farm type only had a significant influence on the farmer's interest when it came to environmental issues, with 79% of the 24 sheep farmer respondents expressing interest compared

to 53% of the other respondents. Rural development issues were of interest to 63% of the respondents but this dropped dramatically for dairy farmers, with only 45% of them expressing interest in listening to rural development items. Age was somewhat significant in farmers' interest to hear certain topics on farm radio.

Data mentioned in Table 4 below shows the relationship

between age category and topics of interest for radio listenership. The younger age category of 20-40 years was significantly more interested in technical advice. Older farmers expressed a stronger preference for interviews with local farmers and local experts compared to their younger counterparts though not statistically significant.

Table 3. Percentage of Survey respondents in each category who listen to farm radio for different types of information.

Type of Information on Radio	All N=93	20-40 yrs N=21	40-60yrs N=37	60+ yrs N=35	Significance
Reminders on schemes	79%	81%	84%	71%	0.424
Event Information	75%	86%	78%	67%	0.571
Mart Reports	72%	76%	62%	80%	0.295
Technical Information	63%	76%	68%	51%	0.331
Rural Development	62%	57%	70%	57%	0.429

Table 4. Type of information of interest to survey respondents by age category (N = 115).

Type of Information on Radio	All N=115	20-40yrs N=33	40-60yrs N=47	60+ yrs N=35	Significance
Events and scheme deadlines	72%	73%	77%	66%	0.552
Rural Development	64%	61%	64%	66%	0.907
Environmental issues	59%	64%	62%	50%	0.456
Technical information & advice	56%	74%	57%	35%	0.006*
Industry and market information	53%	65%	53%	41%	0.151
Interviews with local farmers & experts	48%	41%	45%	59%	0.287

**What impact does Farm Radio have on Farmer Knowledge, Attitudes and Practice?** Nine active farmer discussion groups (totalling 150 farmers) in the county were asked their views about the farm radio programmes.

**Listenership:** Among group members, listenership varied. There were very few everyday listeners and these few were from the sheep and suckler beef groups and tended to be older members. Most of the members were in the occasional listener category with younger and part-time farmers the less likely to listen. A range of answers was provided in response to the question of why they listen to the farm radio programmes, including, inter alia, to gain market information for buying or selling livestock; because the topic was interesting; and to get best practice tips at certain times of the year.

For those who did not listen, they gave reasons including unsuitable timing; not having the radio tuned to Mid-West; forgetting to tune in; and not being interested. One young beef suckler farmer commented "I find it depressing, dominated by old farmers and late starters".

**Usefulness of Information:** The groups were asked

their views on the usefulness of the information provided on the farm radio programmes. Two groups felt that these programmes were very useful for locally relevant and seasonally important information at certain times of the year, for example regarding slurry spreading or spraying of fields. Another group commented that getting daily radio information complemented their other advisory services from Teagasc, consistent with the finding of Misiko and Halm (2015) about the integration of information from different channels and Moussa *et al.* (2011) about the added value radio can bring to existing extension programmes. Another group felt that the value of the radio programmes was in getting refresher tips in the spring time and getting timely reminders about deadlines for schemes, etc.

Some groups questioned the reliability of the livestock market reports while others felt that the information was often too general to be useful to them. They suggested that it would be more useful if there were practical examples from the local area and local farmers as guest speakers giving their experience on particular topics.

### **Does Radio influence Farmer Decision Making and Practices?**

The groups were asked if the radio programmes had any effect on decision making at farm level. The dairy group was the least likely to be influenced but this group is extremely well linked into different on-line information sources and most members actively use their smart phones to seek information before making decisions. Among the radio listeners in the beef and sheep discussion groups, there was a strong Key personnel involved in making the farm radio programmes perceived value in a number of areas such as making people aware of and interested in attending agricultural events and demonstrations. One advisor presenter commented:

*"I'll give you one example, we were doing a reseeding demonstration maybe two years ago and it was quite a practical event. We gave it a mention in the evening slots during the week. We had over 500 people to the event coming from all sorts of distances. It just shows the power of the local radio in terms of getting people to be enthusiastic enough to drive 70 or 100 miles for an event".*

### **DISCUSSION**

This case study of agricultural radio programming in the west of Ireland illustrates that local radio is a very popular medium with a large proportion of the rural and farming population, with farmers listening at different times of the day. The majority are aware of the farming programmes and would listen either occasionally or regularly. The feedback from survey respondents and from discussion groups shows that the listener is very much in command of when, how and why they listen and that they do indeed integrate different interpersonal and mass communication media in terms of their learning and subsequent decision making.

The radio farming programmes have helped to make them aware of different initiatives and innovations; they have provided useful information about important issues; and they have stimulated or triggered farmers to attend events or take specific actions.

Local radio is the medium of choice in this rural county with very few survey respondents indicating that they listened to farming programmes on national radio. What local radio programmes appear to offer is information that is specific to the local context whether that be local market prices, events happening in the locality or interviews with local farmers or local experts. This reinforces the findings of Sulaiman *et al.* (2012) that the

likelihood that they would use the market information when making decisions about buying or selling livestock. Many of the farmers said they were influenced at different times of the year with regard to weed control, seasonal tasks, tips for calving and housing and reminders on upcoming scheme deadlines. A number of farmers felt that the influence of the radio programmes was as a reminder and a trigger to find out more information in order to make a decision.

value of information transmitted is greatly dependent on its local relevance and whether it can be customised to the resource situation of local farmers. What the case study also illustrates in the active nature of radio listenership with clear preferences for different types of information between different groups of farmers.

Age emerges as a critical factor in radio listenership with older farmers displaying a preference for the traditional form of listenership whereas younger farmers were less interested showing that the motivation to use any mass medium is also affected by how much an individual relies on it and how well it satisfies her or his need. Younger farmers were more attracted to digital media including podcasts or information they could access on their smart phones.

### **CONCLUSION AND RECOMMENDATION**

In conclusion, this case study supports the contention from previous studies (Sulaiman *et al.*, 2012; Moussa *et al.*, 2011; Misiko & Halm, 2015) that radio still has an important role to play in extension programming, not on its own but integrated with a range of other communication strategies. Radio appears to have particular appeal to older farmers and it may have unrealised potential to reach the cohort of farmers who are less engaged with advisory services and sometimes considered as 'hard-to-reach'. There are important lessons for extension agents and agencies in Ireland and in other countries to consider when developing extension programmes and communications strategies. There is considerable scope with podcasts and local radio to reach a large audience with messages that are locally and contextually relevant and to engage local actors in this process.

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