SCIENCE COMMUNICATION

Assessing Utility of Radio in Communicating Agricultural Biotechnology in Africa: *Case Studies of Burkina Faso and Kenya*

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Preliminary findings of a two-year research project aimed at understanding how radio is being used to communicate agricultural biotechnology in Africa offer important lessons for optimising opportunities for enhancing knowledge and understanding of the highly controversial subject. The partnership project, which is facilitated by the International Service for the Acquisition of Agri-biotech Applications (ISAAA Africenter) with funding from the International Development Research Centre (IDRC) started in 2008 and uses a case study of Burkina Faso and Kenya to compare radio-use trends and identify knowledge gaps and information needs by stakeholders in the agricultural sector.

The two countries have recorded increased activity and growth in research, development and policy formulation in this area of modern biotechnology. In 2008, Burkina Faso for the first time planted approximately 8,500 hectares of Bt cotton for seed production and initial commercialization, becoming the 2nd country in Africa to grow commercial biotech cotton after South Africa and Egypt. In 2008, the number of African countries increased from one in 2007 - South Africa - to three with the entry of Burkina Faso (cotton) and Egypt (maize).

The following year, Kenya approved a piece of legislation – the Biosafety Act to govern research and utilisation of modern biotechnology. The country has also been conducting research into application of biotechnology in various crops including maize, cotton, sweetpotato and cassava while successes have been recorded with tissue-cultured banana, another form of biotechnology that has been widely adopted by farmers.

While various national and international fora have acknowledged the importance of mass media (and more specifically radio) in shaping perceptions and informing decision-making processes, very little has been done to gauge dimensions of coverage and the whole spectrum of content generation, delivery and utility with respect to agricultural biotechnology. Given the diversity of interests and growing influence of radio due to convergence with new information technologies, this study seeks to give empirical insights on how to use radio to promote accurate reporting and understanding of newly emerging scientific innovations like agricultural biotechnology among farmers in food insecure developing countries.

The study employs a combination of applied and action research methodologies to answer the following research questions:

1. How is radio being used in communicating agricultural biotechnology in Africa?
2. How does radio compare with other media and other means of communication in influencing public opinion about biotechnology?
3. What are stakeholders' biotech information needs, expectations, and how is radio currently meeting those needs?
4. What institutional arrangements can be undertaken to increase effectiveness of radio as an interactive development communication tool for enhancing impartial communication about agricultural biotechnology?
5. What are the possibilities of influencing policy on radio-mediated biotechnology communication interventions?

Dr. Margaret Karembu, Director, ISAAA Africenter and Principal Investigator, Radio for Communicating Agri-biotech in Africa and Edith Adera of International Development Research Center (IDRC) which funded the project

Various activities have been planned including; a situational analysis to review and analyse past research on radio usage and content analysis of programmes, a rapid assessment survey of radio audiences to complement the literature review and a knowledge-attitude-practices (KAP) survey. This would be followed by a cross-sectional survey and focus group discussions to document media consumption and communication behaviour among various stakeholders. A three-month information campaign has been incorporated to gauge degree of exposure with observed behavioural and/or attitudinal changes.

Finally, policy dialogues and sharing of research results will be done to inform evidence-based policy recommendations to key biotechnology actors on contributions of radio to audience's knowledge, attitudes and practices (KAP) thus enhancing its usage with respect to communicating balanced perspectives on biotechnology.

During the first year of implementation, various activities have been conducted yielding results that are already contributing to new knowledge in this area.

- A desk study and rapid assessment of radio programmes on agricultural biotechnology in the two countries indicated that listening patterns are dictated by the schedules of a station and their individual presenters even for a highly technical subject as biotechnology. Most stations seem to be coming up with programmes of higher standards than in the past, and they are now interested in seeking the opinions of audiences they serve. It is also common to find interactive programmes which provide the opportunity for instant feedback through the phone-in system, and short-message-service (SMS) facility. Radio comedy shows have also become a common feature on the radio menu along with game show programmes offering cash and other prizes. These results have implications to radio station owners on changing trends in listenership and style of presentation that will determine how programs on agricultural biotechnology could be packaged.
- Findings indicate that some families of rural households have more than one radio and even their children now own radio sets with absolute control. They also own mobile phones, some of which enable them to listen to radio. This is unlike previous studies that have largely found stereotype in radio ownership and male dominance in control of what program to listen to in the rural areas. An implication for this finding is the importance of the youth as an entry to reaching out to family members on a technical subject such as biotechnology if programs are well-targeted in the stations they listen to.
- Getting radio scripts to analyse fro content was a major challenge and even accessing those available proved very difficult. A policy implication on this finding is on the need for a policy that enforces storage of materials that have already been aired and in public domain to facilitate related research activities.
- Majority of the radio producers reported interest and willingness to produce agricultural biotechnology programs if they had in-depth knowledge on the subject. Implications of this finding is that there is a lot of capacity that needs to be developed both at the radio producers levels and "experts" level to build the knowledge and confidence if a vibrant information campaign on biotechnology is to be achieved.
- The radio capacity assessment shows less understanding of biotechnology in Kenya than in Burkina Faso and this could be one of the reasons that held back producers especially in Kenya from airing programmes on the subject. There is a wide knowledge gap that needs to be addressed in Kenya.
- There seem to be few experts in the field of biotechnology willing to participate in radio programs/shows. The experts cited language limitation where the vernacular programmes are difficult for them because of the scientific terminologies. Being a relatively new subject, certain terms are yet to be developed in any of these languages. This finding implies a real need to develop a Glossary of common terminologies that radio producers and experts could use to facilitate their participation in radio programs.
- In Kenya, the results indicate wide knowledge gaps and heightened anxiety about biotechnology, but also a high desire to learn. Most of the farmers indicated an interest in the potential that agricultural biotechnology holds in increasing yields citing the example of tissue cultured bananas that has been widely adopted. In Burkina Faso, most respondents said they did not have any anxieties about GM products although this was contradicted in the Focus Group Discussions (FGDs) where more worries were expressed. Exposure visits and more products would ease the tension.
- Most respondents in the FGDs in Burkina Faso felt their local radio stations were biased in favour of agri-biotech/GM and felt that extension officers were more trustworthy to present the pros and cons than the radio. This was the opposite in Kenya where the radio was more trusted. More concerns on our preliminary findings relate to low knowledge level among extension officers and policy makers who are charged with training farmers and decision-making respectively. This study has policy implications on radio content generation and validation.
- Gender-related issues are apparent in radio ownership, control and access which may impact on listening behaviour. Although men are the family heads, women are often the managers of the farms in Kenya while men tend to retain control of farming activities in Burkina Faso, especially with cash crops like cotton. Ownership of radio revealed that 82% of the males had absolute ownership compared to 60% of the females. In areas without electricity and where the radio is powered by batteries, females had 56% absolute control over what program to listen to compared to 80% for males.

Conclusion: In view of the current low usage of radio to communicate about agricultural biotechnology in both countries, there is a need to re-think and devise innovative approaches that would harness the full potential of radio's advantage of language flexibility and national reach. This would however require building the necessary capacities through training of broadcasters and developing simplified factsheets with terminologies to be used by experts, extension workers and policy makers for full application of the research findings ensuring both the pros and cons of agricultural biotechnology are communicated accurately and in a balanced manner in Kenya and Burkina Faso.