

The waves that change?

Agricultural advice via radio in local languages: benefits and gaps

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Paul Castle, May 2014

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Abstract

Languages are dying out fast, in Africa as elsewhere. One way to help stem this loss may be to ensure that use of minority languages brings material benefits for farmers. This above all means employing the languages for advice on more successful agriculture. An excellent medium for this ‘extension’ is radio. Local languages appear to be important for the implementation of agricultural advice. Less clear remains whether the benefits, in turn, help promote the languages.

Keywords

Radio, local languages, agricultural extension, smallholders, Africa

Note on terminology

This essay uses the terms ‘local’, ‘minority’ or ‘small’ languages to refer to those spoken by a small part of a country’s overall population. Generally speaking, these are languages other than the main national or international idioms of school instruction, political debate and official documentation. Locally, of course, ‘minority’ languages can be those of a majority, at least in particular settings such as the home or public celebrations.

Other terms used in the literature include ‘mother tongue’, ‘ethnic language’ and ‘ethnic community language’. In the correspondence related to my study questionnaire, several participants used the word ‘vernacular’, as do some other authors.

This essay uses the terms ‘extension’ and ‘agricultural extension’ to mean various forms of advice, training and related support for farmers. Extension is delivered through a wide range of organisations, approaches and channels, of which radio is one.

All translations in this essay are by the author.

Correspondence: paul.castle@syngenta.com

c/o Syngenta Foundation, WRO-1002.11, Schwarzwaldallee 215, 4058 Basel, Switzerland

Introduction

This essay is mainly about life – and a little bit about death. Plants and languages have striking similarities, and their lives are closely connected in many ways, some of which are the topic of this study. There are also points of contact, synergies and possibilities for transfer of lessons when avoiding or postponing their disappearance.

The initial thoughts behind this research came from listening to people talk about crops – or more specifically, about revitalizing traditional varieties of potatoes and quinoa in South America. The experts discussing the battles to save these old plants from public disappearance were using terms that sounded strangely familiar: “squeezed out by globalization”, “loss of knowledge, customs and culture”, “need to motivate the whole community”, “pride and profit can help”. Increasingly, these presentations about food reminded me of another very ‘oral’ topic, languages – more specifically the revitalization of local minority languages worldwide. So I asked one of the plant rescuers whether he had ever talked to linguists and examined how they could benefit from each other. To my astonishment, he shook his head.

Fortunately, I have subsequently discovered that scientists from these two fields do, in fact, sometimes exchange views and lessons. But my initial surprise prompted the idea of one day looking in more detail at one possible bridge between threatened plants and threatened languages. This essay is that ‘one day’. The ‘bridge’ is radio, or rather its use of minority languages in the provision of farming advice to smallholders. Could there, I wondered, be mutual benefits? Does the advice get applied better if it comes in ‘grandmother’s language’? And if the advice gives the farmer a material advantage, does that help raise the standing of the language and therefore its active use? The following pages examine these and related aspects of radio and language deployment in rural Africa.

But first we return to Latin America.

Potatoes, pride and profit

“Selling native potatoes to the industry has changed our lives”, says Victoriano Meza, a farmer in the Peruvian Andes. It has meant additional income to build a house for his family and equip it with satellite internet, “so that my children can learn quickly and get a better future.” Meza is one of thousands of Andean smallholders benefitting from a new boom in the market for native potatoes.

This boom is a result of the *Papa Andina* programme, spearheaded by the International Potato Center (CIP). The programme began at the turn of this century with the aim of raising the profile of native potatoes both as a high-value product and a cultural asset. Peru has a huge range of varieties, but by the 1990’s very few were still in commercial production. Much of this enormous wealth of biodiversity seemed likely to disappear - and with it not only useful characteristics for breeding potatoes worldwide, but also ancient customs, cookery recipes and other knowledge of potato uses. Indeed, with the Andes as the biological home of potatoes, Peru seemed likely to lose part of its entire cultural identity. CIP and the Peruvian government realized that farmers would nonetheless only continue to grow the old varieties if they could turn them into cash. Just being ‘a cultural asset’ was not enough to guarantee a potato’s survival.

Papa Andina has worked with a range of partners to develop product innovations, open new market niches and achieve higher prices for farmers. Examples include award-winning *T’ikapapa* (bagged native potatoes), packaged *chuño* (traditional dehydrated potato) and native potato chips (crisps) produced by large companies. The programme has not neglected the cultural side of the equation, either: The establishment of an annual National Potato Day, writes CIP, “has elevated the native potato from poor man’s food to a point of national pride” {Reference 1, p. 27}.

The programme has benefitted over 700,000 smallholder families. As farmer Nolberta Inostroza puts it: “Now I earn more, and take pride in sharing the native potatoes that I take care of, as my ancestors did before me.” Among the many other benefits, of course, is also the dramatic revitalization of the traditional varieties whose plight inspired the whole initiative.

Similar successes on a smaller scale have also been seen with traditional varieties of quinoa in Peru and Bolivia. The methods of generating income differed markedly from those in *Papa Andina*, but the effects were comparable: the ability to earn cash encouraged farmers to plant crops again that they had long disregarded {Reference 2}.

Summarizing Syngenta Foundation work by Anthony, and publications about the quinoa studies by Drucker and colleagues, Castle {3} writes: “The majority of the planet’s food comes from a very small number of crops: only around 30 account for more than 85 per cent of global crop production. Of the about 350,000 plant species known to exist, fewer than 20 per cent are eaten and only some 150 have been domesticated for farming. Furthermore, crops’ genetic diversity within species is very narrow, and existing agrobiodiversity is being lost at a rapid rate.

However, a recent pilot scheme to pay farmers for conserving traditional crop varieties has provided a promising way to stem the loss.”

Diversity is receding rapidly in other areas as well. The IUCN Red List of Threatened Species currently categorizes 21,286 out of its 71,576 assessed species as “threatened with extinction”. They include every fourth mammal, 40 percent of amphibians and one in three corals {4}.

Dominance, dialects and demise

Not only plants and animals are in danger. Numerous languages are also dying out, with hundreds more soon likely to follow.

Forecasts of language death vary. Houssouba, quoting Krauss (1992), suggests that by 2100 – in our grandchildren’s lifetime, therefore – 90% of the world’s languages will disappear. In Africa, only some 200 out of 2000 would survive {5}. The Society for Endangered Languages, based at Cologne University in Germany, regards the figure of 90% as “pessimistic”, but predicts that at least one-third of the world’s 6500 current languages will die out in the coming decades {6}. This would represent a considerable acceleration of the language loss in the past century.

As with farmed plants, the use of languages is already extremely unevenly distributed. Half the global population today speaks one of the ‘Big 20’ such as Mandarin, English or Spanish. Near the other end of the scale are languages like Tima in Sudan with some 7000 speakers, or Bora in Colombia with 1000. Many others are now down to double digits {7}.

Deutscher calculates that “at an estimated death rate of two per month... between half and three-quarters of the world’s approximately 6000 languages will have disappeared by the end of this century.” As he emphasizes, this loss will particularly affect “almost all the languages of smaller communities with no written version”. With only a minority even of professional linguists engaged in documenting these so-called ‘exotic’ languages, a radical change in attitudes is required. If we fail here, we will lose not only the languages themselves, but also their “rich oral legacy of knowledge and the chance to learn about the connection between languages and culture” {8}.

Some sources put the current number of African languages at “between 2000 and 2500”, others as low as 1400. The discrepancy arises partially from the difficulty of differentiating rigorously between languages and dialects. But whatever total they arrive at, scholars agree that a very large number of idioms are likely soon to disappear.

Several African countries are currently home to more than 100 languages. They include Cameroon, DR Congo and Chad. People in Nigeria, the most linguistically diverse nation, speak over 400. Most of these, however, are dwarfed by the dominant languages such as Hausa.

Languages, says Batibo, are “intrinsically equal”, but in practice marked by “gross inequality”, which has “many sociolinguistic implications”. Batibo and colleagues consider 88 African languages as “major dominant”, and a further 370 “minor dominant”. This leaves over 1500 in the categories “(Nearly) extinct”, “Highly endangered” or “Less endangered” {9}. According to Batibo, “most African countries are silent or hesitant on what public roles to accord to the so-called minority languages.” These languages are “frowned upon as stumbling blocks to the desired [...] ingredients for national unity.”

Despite this huge impending loss, it is often difficult to interest large numbers of the general public in languages other than their own. Frank Seifart from the Society for Endangered Languages finds it “disheartening that public interest in many countries is greater in a plant that becomes extinct than a language that dies” {7}.

Esperanto, the MDGs and yams

Why does language death matter? It is, after all, nothing new. Few people regret the passing of languages grunted by their prehistoric ancestors, or even those written with great sophistication in historical times. Communication continues well without them.

Latin is just one of many languages to have largely or totally expired in the last 2000 years in Europe alone. Unlike most other ‘dead’ languages, Latin lives on in certain settings, mainly written. (Its life-support nurses are an unlikely coalition of life scientists, slightly misguided pedagogues and the Vatican). Normal oral communication across the former Roman Empire has, however, survived Latin’s demise very well. Its direct successors are spoken from Cadiz to Calais and from Bordeaux to the Black Sea, as well as in Nicaragua, Niger and New Caledonia. Even on the Empire’s fringes, languages like German have fully absorbed certain Latin expressions, adapted others and dropped the rest – without being any the poorer.

Furthermore, languages are in a constant state of flux; most modern speakers, for example, find it impossible to understand ‘English’ texts written in the 10th century – less than 50 generations ago. New languages of various sorts continue to arise, from Creole to Signing, and from Esperanto to Javascript. So if languages keep coming and going quite naturally, what is there to worry about?

One reason for mourning the passing of languages – or wanting to avoid it – is the ‘John Donne view’: “No man is an Iland, intire of it selfe; every man is a peece of the Continent, a part of the maine; if a Clod bee washed away by the Sea, Europe is the lesse.” Any loss around the world affects us all: “therefore never send to know for whom the bell tolls; It tolls for thee.” (English has thankfully changed so little since the early 17th century that Donne’s poetry is still fully comprehensible, even in its original spelling).

Beyond that rather general, and possibly somewhat romantic, objection to language loss, there are more practical reasons for wanting to prevent or at least slow the process. Put in the rather complicated terms of today's linguists {10}: "The unique perspective that is coded within each language provides a distinct and unique set of critical and creative tools that are available to both native and non-native speakers". Or as Wilhelm von Humboldt noted more succinctly, two centuries after Donne's poem: "Every language is the special view of a part of mankind" {11}. Lose one language, and our vision is impaired, our knowledge reduced, our culture the poorer. Lose hundreds, and we are probably in trouble.

Almost another two centuries later, Besha echoes the Prussian diplomat's thought with observations from modern Tanzania: "local languages... do not have a defined role. It is acknowledged that they serve some useful functions, but Swahili has [...] made irreparable inroads. [...] But the reality is more complex than that of survival or death. [...] The key function associated with these languages is that of embodying the cultures of the people [...], it is generally accepted that the mother tongues represent the total heritage of Tanzania; that they are a source of the cultural and linguistic history of the country; and that they are a repository of oral and literary tradition and dance songs. [They are also] a cultural and linguistic resource on which Swahili can draw for its enrichment". However, as Besha notes: "Swahili is taking over numerous informal functions formerly served by these languages". Their neglect, she believes, "has robbed the nation of the wisdom" they contain {12}.

Several authors draw attention to activities in which it is particularly important to keep smaller languages in good health. As Bearth points out: "Innovation takes place locally, in local languages, not in one of the often poorly mastered official or former colonial languages. We have to look the facts in the face and recognize local languages as a *sine qua non* of development processes." The concluding report of the major Lagsus ('Language, gender and sustainability') study in which he was prominently involved "confirms the connection between communication skills and the ability to take actions". In summary, Bearth calls language "a neglected resource of sustainable development" {13}.

Samassékou agrees {14}. He argues that languages are an essential part of the Millennium Development Goals: "The vast majority of humanity lives in multilingual societies... How, then, can we not take the language question ... into account when working towards the MDGs? A transversal issue *par excellence*, the language question determines our ability to achieve each of the eight [Goals]." A former Malian Minister of Basic Education, Samassékou declares: "World hunger will be reduced by mobilizing peasant communities. But [they] speak local languages, which [...] describe their land, their culture, and regional fruits and vegetables." New knowledge must come in "languages [they] can understand, assimilate and enrich with their own knowledge set. Here we see language's direct impact on the reduction of world hunger."

'Agri-Culture' is closely linked to many other forms of culture. Language is among the most fundamental. In his book *Elefanten in der Sahara*, former Swiss missionary Al Imfeld devotes a

chapter specifically to “*Sprachlose Bauern*” – which he writes with a question mark: “Farmers who’ve lost their tongue?” A farmer, he says, “has his language just like city-dwellers; language changes, depending on whether one farms livestock or plants. Africa’s languages are part of small local cultures. They arose and survived in ways shaped by climate and soil, by land use and land division. [...] Their words emerged from daily life in each specific form of farming and system of barter.”

“Languages are always tied to Agri-Culture”, notes Imfeld. He sees linguistics as inseparably twinned with agricultural history, because “apart from sexuality, humans’ two greatest concerns are food and drink, and these are both connected to agriculture” – or as Imfeld more precisely says, to “*agricultures*”, in the plural. He quotes a western Cameroon saying that “language comes from yams, not from heaven”. The region has some 13,000 types of yam – and in other areas where this crop does not grow, there is no word for it. Kikuyu in Kenya is a ‘yamless’ language, for example. Olivier Girardin echoed this in his 2013 Basel University CAS presentation on agriculture, noting that French lacks many of the indigenous Baoulé words used to describe the texture, quality and handling of yams in Côte d’Ivoire.

Born from crops, killed by change? According to Imfeld, many African languages perish because their agricultural roots also die: “If I chop down the last tree of a species, we only need its name for as long as we can remember the tree.” Word loss, Imfeld notes, is particularly acute in societies with unwritten languages, or a primarily oral culture and low literacy rates. Traditionally, therefore, African languages have been heavily at risk {15}.

A further reason that African idioms, like many others worldwide, are “heavily at risk” is the global and local strength of former colonial languages. In her autobiography, Nobel Peace Prize winner Wangarai Maathai from Kenya acknowledges the sometimes overwhelming position there of English. In the early days of her Green Belt Movement’s tree-planting groups, “we knew the government would want to see proper records, and that keeping them in English would confer more legitimacy and transparency.”

Maathai nonetheless “made it a policy that the tree nursery attendants speak and write in their local language as well as in English”. Use of the vernacular was most unusual for grassroots organizations in 1980’s Kenya. Maathai considers it vital for her movement’s success. “Our insistence on people being able to speak their local languages was revolutionary”, she continues. “[M]any people in rural areas, especially those who have had no schooling, do not fully comprehend English or Kiswahili, and their lack of fluency causes them to be shy in meetings. I wanted to hear what they had to say, and to know that they could fully understand us.” Where necessary, the Green Belt Movement organized translators {16}.

The Nobel Laureate’s view is not universally shared. Symptomatic for one mainstream attitude to languages and broadcast in Africa is the recent announcement concerning the launch of *Africanews*. Calling itself the “1st Pan-African multilingual news channel”, *Africanews* begins

transmission in 2015. The TV programmes will, it says, initially be in French and English, “to be followed by other major languages of the continent (Portuguese, Arabic, Swahili, etc.)” Africanews is, apparently, “different from existing channels because it aims to give Africa its rightful place in the world of news” {17}. Speakers of some 2000 other languages might choose to disagree.

Minorities, messages and money

If local African languages are so crucial for development and farming, but seem at such a disadvantage, what can be done to shift the balance? Taking the revival of traditional Peruvian potatoes as a starting-point, perhaps a major part of the answer lies in material benefits.

Sometimes, simply mastering both a majority and a national minority language can bring direct financial advantages. A Canadian study found that “bilingual employees earn more than their unilingual counterparts”. Remarkably, this was true even when the bilinguals did not use their languages skills on the job. Pay difference in this case was some 7%, rising to 21% for posts actually calling on both languages. The Guelph University researchers {18} suggest that “second-language skills may indicate these individuals are stronger in unmeasured labour market characteristics. [...] These can potentially have a bearing on labour productivity.”

According to the *Economist*, supporters of greater Gaelic use in Northern Ireland want an Irish Language Act, similar to the Welsh Language Act of 1993. That would “create fresh entitlements to use Irish in all interactions with officialdom”. Like the Welsh law, it would force the creation of many more jobs for fluent speakers. Legislation as part of the Northern Irish peace agreements has already established a right to learn and use Irish. So while many primary schools face closure because they are too small, Irish-language ones can stay open, because a legal right is at stake. Irish-language teachers benefit directly from the resulting job opportunities {19}. This advantage accrues primarily to Catholics, who are traditionally keenest to learn Gaelic, often as an alternative to the language of the mainland ‘occupiers’.

In 2013, Swiss author Madlaina Bundi published a history of 50 years of broadcasting in her country’s tiny and fragmented language Rumantsch, usually called ‘Romansh’ in English. In 1973, the Swiss broadcasting corporation SSR decided to run Romansh broadcasting from Chur, capital of the relevant canton, rather than from Zürich like the German-language programmes. According to Bundi, this was important for Romansh journalism because it hindered further brain drain. (The modern Romansh word for which, by the way, is “braindrain”). Young journalism talents could now stay in much closer touch with their language’s heartland. Their economic position there was assured, even if their airtime slots tended to be marginal {20}.

Jobs in Québec, as Belfast school teachers or Grischun journalists are all very well, but not typically an option for African smallholders. So how can their minority languages turn into material advantages? One plausible option would be for these languages, wherever suitable, to be the idioms of agricultural extension. As local languages provide the full range of locally relevant agricultural vocabulary, their use enables very precise advice tailored to farmers' real situations. This must surely be better than generalizations from urban textbooks, typically written in a majority language of national instruction.

In addition, it is possible that messages conveyed in 'grandmother's tongue', 'the language of the heart', may have more impact than those in one learned many years ago at school. (To return to Latin America: Working successfully to link Andean vegetable growers with a lucrative but highly demanding customer, the Syngenta Foundation for Sustainable Agriculture has noted the great value of agronomy training run by its NGO partner in Quechua rather than Spanish) {21}.

Furthermore, many studies have shown that children do better if they receive education in their own language. (This is an important observation, because about 476 million of the world's illiterate people speak minority languages and live in countries where children are mostly not taught in their mother tongue) {22}. Equivalent educational success data for African adults are hard to find, but there seems no obvious reason why what is positive for children should be negative for their parents.

Radio, the low-tech leader

Assuming that providing agricultural advice is a possible route to material benefits for the language of its delivery – because the advice should help smallholders farm more successfully – what medium is best suited to the task?

In the mid-20th century, Switzerland's Romansh League saw electronic mass media as the key to longevity: "To survive as a language, Romansh must have the same rights... and the same broadcasting channels as Switzerland's other languages." According to Caviezel, the founders of the Romansh Radio Association CRR in 1946 were convinced that radio would be "an important element in the maintenance and encouragement of the Romansh language and culture" {23}.

Overall, Bundi believes, the Swiss broadcasting organization SSR "considerably contributed to the revitalization of Romansh". In the 1930's, Romansh speakers had feared that the new spread of German-speaking radio would threaten their own language.

A census in the year 2000, quoted by Bundi, found that all the dialects of Romansh together had some 60,000 frequent users, of whom 35,000 spoke it as their main idiom. 60,000 people at that stage represented 0.83% of Switzerland's population. In 1880, the absolute number of first-languages speakers had been very similar, but represented some 1.35% of the total. Bundi's

‘revitalization through broadcasting’ claim therefore seems a little hard to sustain; radio and TV may, however, have at least helped slow the decline. Of the two, radio also arguably has the revitalization advantage that it does not dilute Romansh with German subtitles, as often happens on Swiss TV in programmes such as *Cuntrasts*.

Over the last 30 years, radio has been used actively to revitalize languages in a broader than agricultural context, for example in Guatemala and Hawaii. One of radio’s advantages, according to practitioner Anselmo Xunic from Guatemala, is that it “can be heard in remote areas at a low cost, where other forms of media cannot reach” {24}.

This view is reinforced by experiences with revitalizing the Shuar language in Ecuador. Here, radio was used both for communication and education, particularly for school children. “Radio”, report Grenoble and Whaley, “was recognized to be the only feasible means for the [Shuar] federations to communicate with their members over long distances.” Its educational use also almost tripled primary school completion rates between 1968 and 2000 {25}.

Radio stations need to choose their languages carefully. A recent UNESCO study {26} in seven African nations noted that in DR Congo, “languages like Kikongo and Lingala are preferred by youth and people without formal education, while French is preferred by respondents with [a] university background. The Namibian radio station Base FM broadcasts most of its programmes in English; however the audience assessment has revealed that 70% of listeners prefer Oshiwambo”.

Other commentators take an opposing stance on local languages. According to Salamatu Garba of Nigeria’s Women Farmers Advancement Network, radio programmes are valuable information sources, but need to be in Hausa {27}. Using such a major language, she believes, is more inclusive. It is the only easy way to reach large numbers of women right across northern Nigeria and into neighboring Niger.

In the early days of Romansh broadcasting, the SSR boldly claimed that radio is “more conducive to communication” than TV. It also noted some practical advantages for broadcasters: relatively simple infrastructure, limited financial outlay and good audience reach all made radio the first choice in this setting {20}.

In developing countries, and in agricultural extension, these advantages are crucial. An Indian media website claims in 2013 that the country has more than 177 radio stations reaching almost 97 percent of the population. Listing its advantages, the site calls radio “the most portable of the broadcast media”, “handy, easily accessible and cheap [...] local, linked to communities [and it] operates through simple technology” {28}.

The article also notes that “[a]nother important feature of radio [...] is that it caters to a large rural population which has no access to TV and where there is no power supply. In such places, AIR-All India Radio’s programmes continue to be the only source of information and

entertainment. AIR broadcasts in 24 languages and 140 dialects. The economics of radio [enable the] tailoring [of] content to the needs of small audiences. [It] is economically viable to recast a programme for [...] audiences in different sub-regional, cultural and linguistic [settings]. This enhances the value of radio in networking developmental programmes. [...] It will serve as a standalone medium of information dissemination, or a support medium for curricular learning, jointly with print material or with fieldwork.” Importantly for the survival of smaller stations in free market democracies, Indian “radio with its penetration to the rural areas is becoming a powerful medium for advertisers [... to reach] local audiences [...] for many kinds of specialized products and services.”

The Food and Agriculture Organization of the United Nations (FAO) has in the past devoted considerable attention to rural radio. “In many cases, the information needs of rural people are virtually ignored by national radio networks”, the FAO noted in 1998 {29}. “A rural radio approach is an alternative to narrow, city-centered urban radio”.

As the FAO points out, rural radio has a rich history. The first such programmes in Africa appeared in the late 1960s, growing out of educational radio efforts in Europe and North America. A significant contributor to this process was the Radio Forum movement in Canada from the 1940s-1960s. Groups gathered to listen to a programme on specific agricultural topics. They then discussed it and sent comments and questions to the producers. At its height, the Radio Forum involved some 30,000 listeners in 1600 groups across Canada.

UNESCO adapted lessons from the Canadian experience for use in India in the 1950s. Subsequently, the use of radio as a development tool was promoted in various regions, including Africa. Collective listening groups, so-called ‘radio clubs’, were organized in various African countries; *L’Association des Radio Clubs du Niger*, for example, was founded in 1962.

A methodology for rural radio evolved which was based initially on mixed programming, combining agriculture, health, oral tradition, music and folk tales. This then developed into a more interactive use of the medium. Today, says the FAO, “it is widely recognized that rural radio programmes are most effective when produced with audience participation, in local languages and taking into account cultural traditions”.

The FAO, in common with other sources, sees community participation as a fundamental characteristic of rural radio. Village engagement includes live public shows, debates and involvement in the actual running of the radio station. “This approach”, says the FAO, “empowers rural people to participate in the dialogue and decision-making processes essential for them to control their own economic, social and cultural environment, and play an active part in development activities.”

In Africa, radio is one of the most widespread and popular tools of communication. Rural radio often goes beyond agricultural issues, but in the FAO’s view, “it is excellent for motivating farmers and for drawing their attention to new agricultural production ideas and techniques.”

Hanke, however, believes that although “effective in addressing the agricultural value chain, radio alone is not enough”. What is required is “a combination of posters, radio and Agricultural Extension staff on the ground” {30}. Gibson {31} agrees that radio does not have all the answers. Internet websites in minority languages, he points out, can reach far larger numbers of users than local radio, including speakers in the diaspora.

However, with many radio stations now available on the web, this gap is probably smaller than Gibson suggests. Furthermore, the use of written websites is limited by connectivity, hardware availability and IT literacy, none of which is a problem for local broadcasters. Radio is also less static than most websites, and plays to the ear rather than the eye. This is the natural route of mother-tongue acquisition, and therefore probably more fruitful for language maintenance and promotion. Spoken participation by listeners is also generally easier in radio programmes than online, especially in countries such as Kenya with a high density of mobile phone users. Websites’ main value here may be as a complement to radio, or as a substitute at a stage of language decline where there is no radio service, and bare preservation or simply posthumous record has become the principle aim.

There is a risk, particularly in high-connectivity Western societies, that internet is seen as a new *Wunderding*, a solution for everything, replacing radio (which is anyway also accessible via the web). However, internet even seems to have its limitations in those minority language communities that face no practical problems of access. In the UK, Forrest {32} notes that “few young Welsh speakers are regularly using the language online”. The Welsh Language Society is adamant that this not due to any supposed unsuitability for online use. Instead it is a question of “a struggle to create parity of esteem and opportunity.” English has a global reach that puts Welsh in the shade, and is therefore first choice for young bilinguals on the web – and nowadays all Welsh speakers are bilingual.

Radio is not automatically ‘better’, for example where so-called language ‘purity’ is at stake. DJs on the airwaves have been criticized for using ‘bad Welsh’. But overall, reports Abley {33}, Welsh nationalists have felt “inspired” by radio’s contribution to language vitality in Basque and Catalan. In the case of resuscitating Mohawk, radio programs for this North American Indian tribe were deliberately designed to “give people a good feeling”.

Radio has another major advantage over some other media. In Zima’s words: “Broadcasting, TV and video [...] fill the traditional functional slots in the communicative continuum of scriptless cultures” {34}. Put more simply: to understand voices, you don’t need to read.

In the case of his fellow countrymen in Sierra Leone, radio journalist Andrew Kromah is quoted as saying bluntly: “They can’t read or write, they can’t watch TV, they can’t read the newspapers, they don’t use the internet, most of them don’t have telephones – they rely on their radio stations” {35}.

According to Manda, “many studies have concluded that because of its ubiquity in Africa and per capita cheapness”, radio is the best medium of communication among farmers.” In the case of Malawi, “radio remains the most important mass medium to create development dialogues” {36}. Manda says that the African Farm Radio Research Initiative has “demonstrated clearly that when radio is involved in providing information, and when farmers actively participate in program production, farmers gain.” Above all, radio wins because of its great reach at low cost: “If experts were engaged to travel across Malawi to directly assist farmers, the national budget for agriculture would collapse and the return on that huge investment would be dismal. This is where radio comes in.” Extensive reach with limited resources is particularly important for minority languages: there are naturally fewer agricultural experts able to provide advice in these than in languages with huge numbers of speakers.

Geographical reach on its own, though, would be no guarantee of success if smallholders were not interested in radio’s professional tips. Quoting a 2011 ‘snapshot survey’ by Farmer Voice Radio, however, Shema notes that “about 97% of smallholder farmers use radio to access agricultural information. Therefore, radio holds [their] key to unlocking value chain information.” Better still, “70% of the smallholder farmers who listen to FVR programmes implement what they listen to” {37}.

In many countries, says Peterson, “sociocultural factors are leading constraints to the effectiveness of extension. Languages differences and illiteracy can impede the communication of improved technology unless they are taken into account” {38}. Sociocultural aspects are one of several “macro-factors” that extension agents need to take into account. Others include agro-ecology, infrastructure and the political-economic environment.

Peterson also points to the under-representation of women on the extension force. That is particularly a problem because in many settings “the men are employed off-farm, leaving the farm operations to women.”

Chabvuta {39} echoes this concern, and highlights radio’s ability to solve the problem. “To have maximum impact in the value chain, women will have to be involved and the only way for them is through their radios whilst they are doing other chores.” As Chabvuta emphasizes, radio programmes “try to reach out to every farmer regardless of their differences in accessing information from extension workers”, or in their educational levels. Radio also overcomes the social impossibility in some societies of individual men – and extension agents are usually male – talking to women alone or in small groups without other men present.

Broadcasts, behaviour and benefits

With this theoretical evidence for radio's advantages, how does this medium rate in practical terms? How large a role does radio play in agricultural extension? And how important are local languages?

A 2005 study in India {40} suggested that 13% of farm households primarily accessed information on modern agricultural technologies via radio. This was more than twice the percentage relying on farm extension agents, and over six times the figure for government demonstrations. Radio scored as highly as input dealers. Only "Other progressive farmers" were a more valuable first-choice source of information, cited by almost 17%.

Mbogo highlights the example of the Kenyan programme *Mali Shambani*, or "Wealth in the Farm", launched in 2006. "This is now one of the most popular radio programmes, with 80 per cent of listeners claiming they learned something new from it, and 50 per cent saying that they have put something into practice." Aired for one hour per week on *KBC*, the programme targets smallholders and other members of the agricultural sector, providing information on a wide range of topics. Each edition also features a question-and-answer section, where listeners call or send text messages and can interact live with an expert panel. A single programme attracts as many as 200 text messages from Kenyans, as well as from Uganda and Tanzania. Some vernacular radio stations have now also adopted the *Mali Shambani* model {41}.

In 2013, AMARC, the World Association of Community Radio Broadcasters, ran a highly popular online survey about smallholder farming's relationship to radio. The survey primarily aimed to generate discussion material for an AMARC conference. The five questions do not specifically address language issues. A respondent from Mozambique is among the very few to mention the importance of having advice come from "influential people... using local languages". However, the responses from a wide range of countries provide other indications of local radio's ability to reach farmers' hearts and minds on important topics.

From Nigeria, for example, comes the view (of a broadcaster, admittedly) that community radio is "the kingpin of success [...] Remove [its] broadcaster and everything collapses". A South African notes that his weekly 12.5 hours of farm broadcasting reach six million listeners in KwaZulu-Natal. A contributor from Guinea emphasizes the language component and confirms that local radio stations help farmers, and notably women's groups, to improve his country's agriculture. The media officer of the Nigerian national extension services believes that "radio plays a major role in delivering agricultural messages"; a participant from Bénin rates community radio even higher, calling it "an indispensable tool for the development of family farming".

One of the Senegalese survey respondents explains that community radio's value stems from its "proximity". The broadcasters need to be – and unlike urban counterparts, always are – "on site in the countryside, to know what is going on and to inform people what needs doing". A

practitioner from Mozambique echoes this by saying “we visit the smallholders, listen to their successes and problems, and tell the extension officers”.

A lady from DR Congo puts a different twist on local radio’s value: it “give[s] a voice to everybody to explain techniques”, thus enabling listener groups to discuss the information together. “By giving everybody a chance to speak”, she adds, “the media allow us all to know about farmers’ needs.” A further Senegalese respondent agrees wholeheartedly. An Ethiopian adds that in his country, agro-ecology has been a topic “only understandable [to] academics and urban elites”, and praises AMARC for opening the comprehension door to rural populations as well {42}.

Spurk and colleagues recently investigated Kenyan smallholders’ “assessment of information on agricultural innovation” {43}. The researchers conducted most of the over 600 interviews in local languages. Although not specifically investigating the role of language in agricultural information, Spurk considers use of the vernacular essential for the success of his study.

The households surveyed were spread across agriculturally widely varying areas of Kenya. 95% of them had access to radio, considerably more than to mobile phones (66%) or TV (28%). On average, almost two-thirds of the radio users tune in to vernacular stations. In Nyanza, 72% of interviewees listen to *Ramogi FM*, broadcasting in Luo, but only 12% to *Citizen* in Kiswahili.

According to Spurk, radio is the third most important source of farming information. 59% of interviewees mentioned this medium among their unprompted multiple responses. Smallholders’ top choices are other farmers (72%) and family members (68%). All these three sources are consulted up to three times per week. Much less used alternatives include mobile phones (24%) and agrovets, the local farm input retailers (31%). Even *Baraza*, meetings for the whole village community, score only 42%.

However, when it comes to how much smallholders trust the farming advice they receive, the picture changes considerably. No one source scores particularly highly, but government extension agents do best at 44%. (This figure is possibly somewhat inflated, as state extension officers were involved in the interviews). Other farmers are almost as trustworthy (41%). Less than a third of study participants trust radio and TV, but only 17% put their faith in advice from family members. NGOs were among the sources receiving hardly any ‘trust votes’ at all.

Spurk et al. also asked smallholders about their “preferred” medium of information delivery. Over 80% would like more field visits and personal information – a figure also arguably boosted by extension officers’ presence during the survey. Such visits are, however, very personnel-intensive, and markedly increasing them would be costly or impossible. Radio remains a more practical and scalable option in most cases – and is anyway a preferred medium for just over half of smallholders. Men and women were almost equally represented in the survey, and the results show no particular gender differences. There was considerably more variation between interview locations.

Among his conclusions, Spurk emphasizes: “Extension officers should use the radio, and [...] radio stations and their journalists should integrate extension officers as credible sources for information, but critically“. Urging caution, the study stresses “the need to investigate the content of information provided by radio and extension services to farmers more intensively. Spurk senses that “a lot of information in radio is guided by the commercial interests of advertisers and not by farmers’ needs, and that the quality of information suffers from that link.”

My own survey suggests that this is unlikely to be a major danger, as the radio stations have many different sources of income. Only a few enjoy commercial sponsorship. Other sources include private donors, governments and NGOs – some of whom could arguably also exert pressure to emphasize particular farming advice, for example pushing organic agriculture for ideological reasons, at the expense of more efficient modern approaches. My survey, however, did not examine the question of external influence on programme content, and provides no evidence in either direction.

Commenting on Spurk’s study at a presentation, Jean Ngamine, *Caritas* representative in Chad, confirms that in his country, local-language radio programmes play a vital role in agricultural extension. Other topics best covered by this medium include cookery, local culture and women’s rights. The ‘national passion’ of Chad, football, on the other hand, is nowadays more popularly enjoyed by village viewing of TV or internet transmission on a communal screen {44}.

Other professionals in the field also emphasize the particular value of local languages in this setting. Kevin Perkins, Executive Director of Farm Radio International says {45}: “One of the strengths of radio, especially community stations, is that they broadcast in the ‘vernacular’ (grandmother’s language). This is especially (though not only) helpful to female farmers.” He adds: “It is pretty clear that broadcasting in the local vernacular means that farmers who speak those languages at home – especially female farmers – will treasure those radio programs above others” {46}.

Looking primarily at Malawi in 2011, Hanke {30} declares that “[i]n recent years some important changes have taken place in radio in Africa. Once a top-down medium for delivery of messages, it is now becoming more interactive, with opportunities for dialogue, exchange of views and debate. Deregulation and decentralization, the ending of state monopolies and the emergence of new commercial broadcasters are all creating a more positive context for rural radio – one which encourages closer and better interactive communication with African communities, and which empowers rural people to actively use this important tool for their own development.”

An improvement in the operating environment is not enough on its own, however. Radio stations also need to pay careful attention to their content and programme design. “Farmers must not listen to these [extension] programmes as a duty”, stresses Hanke, “they must enjoy and have fun as they get agricultural messages”. As with other topics and other parts of the world, ‘soaps’ play

an important role in the enjoyment: “A serial radio drama is one of the most effective [formats] used for interventions [...] it can mirror any community [and ...] treats the farmer holistically.”

The work involved should not be underestimated. For “significant impact in terms of behavior change”, Hanke recommends 120-180 programmes. Such density can be a particular challenge in languages for which only a few suitable actors are available for series’ many roles. This may explain why in my own survey, expert discussions (including call-in sessions) feature as the main delivery format rather than dramas.

The considerable effort seems nonetheless to be worthwhile. In a survey quoted by Hanke of the popular Malawian rural development and food security soap *Zimachitika*, 81% of listeners said they tuned in every week and 71% that they had changed agricultural practices as a result.

Soaps are also good value for producers’ money. According to Hanke: “You can reach six million people at one Kwacha per head”. Currency values have fluctuated considerably since he calculated that in 2011, but one Malawi Kwacha (MK) remains a very small sum. At the exchange rate on April 17, 2014, it was worth about CHF 0.0022. In local purchasing terms, a 500g loaf of bread then cost between MK 230 - 300; a kilo of rice over MK 500. Educational contact costs of a Kwacha each are hard to beat anywhere.

A study in Ghana {47} concurs that radio can play a very valuable role in strengthening agriculture. “The strength of rural radio as an extension tool”, write Chapman et al., “is widely regarded to lie in its ability to reach illiterate farmers and provide them with information relating to all aspects of agricultural production in a language they understand. This does not mean simply reading technical information over the airwaves in local languages, but understanding the way farmers themselves discuss their problems in the community, and providing relevant information in the local agro-ecological and cultural context. Extension services have been criticized both for failing to reach the majority of farmers in many developing countries and to communicate successfully. Rural radio offers both the reach and the relevance to its listeners, when the programmes are generated in a community-based and participatory fashion [...]. It is easy to understand the appeal to listeners of having local issues discussed in the ‘accent’ of the local community.” The respondents to Chapman and colleagues’ survey generally liked the investigated radio programme, especially “the drama and the group discussion between the presenter, extension agents, NGO representative and the invited farmers”.

Appreciation and enjoyment also translate into beneficial changes in behaviour: “Understanding of soil and water conservation practices, agroforestry and organic manuring seem to have improved after listening to the programme.” The broadcast increased farmers’ resolve to reduce bush-burning [...]. Use of local language was “very important” and “made the programme immediately acceptable”.

A wide-ranging – and award-winning – study by the African Farm Radio Research Initiative (AFRRI) has shown convincingly that participatory radio campaigns have an impact on farmers’

learning and their implementation of the advice. Both the words “campaign” (i.e. not just isolated shots of information), and “participatory”, (i.e. valuing farmers as decision-makers rather than passive recipients) are important here. The study ran in Ghana, Malawi, Mali, Tanzania and Uganda from 2007-10, examining 25 radio stations for 40 million farmers.

AFRRI tested for many variables affecting learning and implementation. Intriguingly, these did not include language. In its focus on listening communities, however, AFRRI found that 39% of “active” communities and 2% of the “passive” groups “started practicing the agricultural improvement after the start of the radio campaign”. This compares with only 4% of respondents in the non-organized control cohort. As Perkins {48} reports, the study also encouragingly showed that the more frequently farmers listen, the more likely they are to adopt the suggested agricultural practice.

The practitioners speak up

Overall, the current literature strongly suggests that radio is an excellent medium for agricultural extension, and that local language use contributes powerfully to its reach. Furthermore, advice provided in the vernacular seems widely heeded, particularly when it comes in attractive programme formats. To test these assumptions more specifically, I sent a questionnaire in British English and Malian French to radio practitioners in several African countries.

The questionnaire asked them the following:

What is your name?

What is the name of your radio station?

In a) what region/s of b) what country/countries do you broadcast?

In which local language/s do you broadcast?

Does your radio station also broadcast in a major ‘national’ language? If so, which?

How does your radio station finance itself?

For how many hours does your radio station broadcast each day?

For how many hours does your radio station broadcast each day in small local language/s?

How many listeners does your station have?

How much time does your radio station devote to programmes aimed specially at farming communities, in small local languages/s?

How many listeners do your farming advice programmes have?

In your programmes for farming communities, roughly what percentages of the broadcast are devoted to professional advice and to other elements? (E.g. “80% music, 10% general news, 10% farming tips”).

Who provides the farming advice? (E.g. local expert in the studio / written information from government / written information from agricultural companies)

Can listeners call in to the farming programme?

If so, what languages do they use?

What are the most important topics for them?

Some people believe that radio stations are very important for small local languages. Other people say that radio should concentrate on major languages accessible to more people. What is your view in connection with your own radio station?

Some people believe that farmers pay special attention to radio advice. Other people say that farmers never listen to any advice! What is your view in connection with your own radio station?

Some people believe that it is important for farmers to receive advice in their local first language. Other people say that advice works best in major “national” languages. What is your view in connection with your own radio station?

In your personal opinion, what are the most valuable contributions your radio station makes to small local languages?

In your personal opinion, how important is your radio station compared with other sources of support for the small local language/s? Please give your answer on a scale of 1-5. (*1 = much more important than other sources, 2 = more important, 3= equally important, 4 = less important 5 = much less important*).

Completed questionnaires came back from radio stations in Kenya, Mali and Côte d’Ivoire. Despite the considerable differences in, for example, their history, religion, recent politics and main domestic or export crops, these three make a compact trio for the purposes of this study: agriculture is a major pillar of their economies, and smallholders form a large section of the workforce. All three have very active local radio stations, important minority languages and numerous sources of agricultural extension, including many hundreds of NGOs.

An overview of answers to my more quantitative questions follows at the end of this essay. These include transmission information and local broadcasting languages. Responses to the more qualitative aspects are summarized below.

Overall, the stations cover a very wide spectrum of farm topics. These include land preparation, soil conservation, scarcity of rain, water harvesting and conservation, dikes and dams, choosing and planting seeds, choosing and applying crop protection products, maintenance of field perimeters, livestock management, tree seedling production, kitchen garden production, crop storage, gender issues related to agriculture, and farming as a business.

Each station focuses on the locally most relevant farming subjects. As one survey participant puts it: “The most important topic is the one which addresses the immediate needs of the farmer. So we rely on issues that farmers bring up.” A colleague elsewhere concurs: “The topics are based on the season”, adding that in his station’s area, “livestock production and veterinary are among the commonly discussed topics, as most listeners inquire on their livestock health and behavior.” A third broadcaster emphasizes two other aspects: “Radio stations command respect among farmers, especially if the programmes are tailor-made to suit [their] needs. Radio is the cheapest and most reliable source of information.”

Farmers are clearly keen listeners. Echoing the AFFRI study mentioned above, one station representative comments: “Farmers understand that our radio delivers the right and timely information, [thus they] pay attention to programmes aired through our station.” Another says: “Farmers listen a lot to the advice we transmit. Better still, we serve as a turntable for village associations to share their experiences with others.” A third confirms that “farmers listen”, but adds that they “weigh up and follow the tips they consider credible, things they’ve either tried themselves or seen others try out”. A fourth says: “Many farmers pay a lot of special attention to the radio advice and we record success stories from farmers [to document] results.”

One broadcaster goes into more detail: “[M]ost farmers take radios with them as they tend to their farms. Many of them listen to know which crops are available during a given season. Most believe that what is heard over the radio is right, and thus they implement it. One day a farmer told me that she heard of a new breed of maize and wanted to go and buy it for planting since she believed it was the right one. So farmers do listen attentively to the radio advice.”

Broadcasters greatly value this kind of audience feedback. “The comments we get from [farmers] show that they are listening”, declares one. They tell you that they followed the advice of a certain expert we had in the studio one day. Hearing that means a lot to me.”

The station representatives agree strongly that local languages go hand in hand (or rather, mouth in ear) with relevant local information. Comments include the following:

- “Since our community radio is regional audience-driven, it narrows down information to suit the people living in the area, using the language they can understand well.”
- “The first local language is important in that the farmers will understand better, because some agricultural words and terminologies are not well understood by many.”
- “The radio contributes much to promoting our local language through advocating the tribe’s culture and music.”
- “The radio [...] brings together the people speaking in this common language.”
- “Radios must promote local languages to emphasize the value of their cultures, completely equally.”
- “Professional advice must be given in the local language because people understand that better than their other languages. That is particularly important for illiterate listeners.”

- “Not all people understand the major languages. People take time to listen to radio when they hear their own voices over the radio in their own language.”
- “Other people also want to learn other languages [...] and so to me it is very important to let people speak, hear and even learn these ‘small’ local languages.”
- “There are very many farmers who do not even understand the ‘national’ language. So how do you reach them if you do not broadcast in the language they understand? It is important to know and recognize that these people are there and you need to give them the right information in a language they understand. Actually these are some of the dependable farmers, so they must be spoken to through radio.”
- “Many farmers understand issues in their own local languages, and also it is easier to deal with specific issues since a message for a wider area will be generalized. [...] The local language is the best! We have done well with vernacular languages.”
- “The local idiom is always better received than one that, although it is a majority language, always seems like somebody else’s, a foreign tongue. That one will always be viewed with caution.”

Even a Malian station with an audience of whom “99.99% understand the majority language Bambara” transmits certain short sequences for farmers in other languages. As its survey participant adds: “We think it’s better to give some messages in a local language. With our largely illiterate farmers, translations can create confusion.”

The pitfalls of translation and lack of reading ability are also a concern elsewhere. “People who say that farmers will pay more attention to advice in the main national languages are simply wrong”, comments a broadcaster from Côte d’Ivoire. “This notion ignores countries’ social structures. A so-called national language is sometimes spoken by 75% of the population. Where does that leave the other 25%? If you want to work seriously, farmers have to receive advice in their local language. That will avoid errors in translation.” A Kenyan counterpart states: “[I]t has been important for the farmers to be receiving farming information in their language, [not] other languages, because the listeners we broadcast to are 80% semi-literate”.

The importance of local language use goes far beyond agricultural tips, however. As the survey respondent from *EK Radio* explains, Suba “is one of the ‘small’ languages in Kenya that have been presumed dead! Many people/organizations came with revitalization programs [...] but they could not reach many people. They even brought in literature in the language and some were even translated, but they could not still reach many. Since the introduction of EK Radio in Suba language, just within two months, the books that had taken over four years to distribute were distributed in less than a month [...] We are very proud that Suba can now be heard over the radio every day. Even non-Suba are also learning Suba, courtesy of EK Radio”. In a 2009 census, Suba had an estimated 139,000 speakers in Western Kenya {49}.

Benefits beyond agriculture are also apparent in Côte d’Ivoire. A broadcaster in Toura (50,000 speakers in 2005 {50}) and Yacouba (1.3 million nationally in 2012 {51}), out of a population of

about 23 million) makes clear: “Radio stations help minorities to realize their own importance and to develop appropriate mechanisms to ensure both their cultural survival and their integration in the nation. The stations also help majority groups to discover the contribution of minorities to nation-building.” He adds that radio “revives a language spoken less and less, because of western schooling”, and “gives development firm cultural roots”. A Kenyan colleague transmitting in Samburu (237,000 speakers in 2009 {52}) says: “Local language in broadcast is more important, especially in matters regarding development; this is because many listeners will be able to receive the message and understand in the simplest format”.

These views very much echo that of Bearth on page 8 above. Another Ivoirian, also using Toura and Yacouba, takes a stance more reminiscent of John Donne (p. 7): “The fingers of a hand differ in size, but that does not stop them complementing each other and successfully performing the tasks expected of a hand. If radios had to concentrate exclusively on majority languages, this would be the ‘death’ of minority languages. The world would then be infirm and incomplete.” Radio in general “resuscitates languages; their speakers are proud of who they are”. “Our radio”, he adds, “adds dynamism to minority languages”.

Discussion

So where does this leave us? Can the “waves” of this essay’s title – radio waves – bring about change? If so, what can they change?

Both from the literature and my own survey, there appears to be compelling evidence that to optimize radio’s contribution to extension, the programmes should be in local languages. There are a number of reasons for this; the most important is direct relevance to the listeners, complementing and enhancing the relevance of the content itself. If content and language are locally relevant, and the programme format entertaining and/or interactive, radio can greatly help ensure that agricultural expertise and new information are implemented in practice.

The result should be an improvement in yields, a reduction in resource-use, and greater food security, combined in many instances with higher incomes. Extension that achieves all that has performed very well – and in the case of radio, this performance comes at a very low cost per capita. This excellent cost-effect ratio is particularly important in developing countries with tight budgets, limited numbers of government extension officers and major infrastructure challenges.

Less clear from the present study is the other side of the equation. There is, at least, no evidence that local languages in agricultural extension are in anyway deleterious. But will their use in a setting in which they can confer the material benefit of higher yields and/or income promote by itself that language’s use by the same people in future, and/or by the next generation?

At first sight, the question seems strange: the smallholders are already using that language, and it thus currently requires no further promotion to them. That situation can, however, change even within a generation. A range of factors can encourage one language's fairly rapid substitution by another. Moreover: for farming, and all its related practices (including language use), to appeal to the next generation, the activity must prove itself financially and/or socially and/or intrinsically attractive in the long term. In the many situations all round the world where agriculture is sadly not yet a profitable profession, farmers' children typically leave the countryside for cities. Among the consequences can be a shift in language use away from the home tongue to that of an urban centre. Conversely, therefore, staying on the land should at least increase the chance that the local language continues to thrive in the next generation.

Proving the particular ability of radio extension (or any other single conveyor of material benefit) to promote minority languages is difficult. A true 'control group' would need deliberately to desist from receiving farm advice in its local language, and listen and call in only in a national educational idiom. Such a study design would be hard to implement and ethically questionable. Any statistically robust analysis would require clear metrics for language vitality and detailed observation over at least one, or better two full generations – far too expensive for radio stations and unlikely to be funded by classical donors. With no possibility of double-blinding (or should one say 'double-deafing'?) the study, biases would also be hard to avoid. An alternative would be a long-term study of two or more areas in which farmers already receive radio advice in either their local mother tongue or only in an idiom of national instruction. This would, however, introduce a number of further variables such as differences in climate, soil and selling opportunities that would cloud the results on the language side. Farm yields and profits depend on a very wide range of factors.

Let us remember, however, that the languages at issue here include those such as Toura. Its 50,000 speakers are about equivalent to the population of Biel in Switzerland. If we believe that the promotion of such languages is hugely important per se – and there are excellent reasons for doing so – then this topic definitely merits further investigation, whatever the difficulties. An in-depth study should include personally a participant group that I was only able to reach indirectly for this CAS essay: the radio-listening smallholders themselves. It would need, inter alia, to see which types of farmers particularly profit from radio extension – for example by gender, age, education level and poly- or monoglot language proficiency. The study would also need to plot differing benefit levels against changing use of minority languages. I very much hope that scholars will rise to this challenge in the near future.

Table 1: Radio for farmers in local languages - summary of quantitative responses

Name of radio station	Area and country	Local languages used by radio station	Daily broadcast hours local/nat'l languages	Farm info (hours)	Farmers listening	% time for farm content	Farmers' call-in?	Importance for local languages (self-rating)*
Serian FM	Maralal, Kenya	Samburu	12 out of 24 (16 live)	> 2 /week	80'000	15%	Yes	1
Naata - l'Espoir	Gao, Mali	Songhay, Tamasheq	15 mins each in 18h	1/ week	30'000	60%	Yes	2
Mang'elele CR	Makueni, Kenya	Kamba	15 out of 16	> 2 /week	200'000	70%	Yes	1
EK Turi Alala	Lake Victoria, Kenya	Luo, Suba	Suba 2/5, Luo 2 or 3 /5	> 2 /week	200'000	30%	Yes	1
Toura FM	West, Côte d'Ivoire	Toura, Yacouba	5 out of 6	4 daily	900	25%	Planned	3
Naawousai FM	Kpata, Côte d'Ivoire	Toura, Yacouba	12 out of 15	2 daily	6000	50%	Yes	2
<i>Jamana Foko</i>	<i>Ségou, Mali</i>	<i>Peul, Songhay, Tamasheq</i>	<i>15 minutes each</i>	<i>0</i>	<i>> 1 mill</i>	<i>85%</i>	<i>No</i>	<i>2</i>
<i>KBC (local)</i>	<i>Various, Kenya</i>	<i>Luhya, Luo, Kimeru</i>	<i>15 mins each per week</i>	<i>15 min/wk</i>	<i>3 x 500'000</i>	<i>80%</i>	<i>Some</i>	<i>1</i>
								Ave. 1.625

*Ratings (scale of 5): 1 = "Much more important than other sources", 2 = "More important", 3 = "Equally important", etc.

The stations in italics fall slightly outside the main analysis because of large audience size and limited minority language use.

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